

1 exercise efficiencies.

2 Madam Chair, members of the Commission, I look
3 forward to an opportunity to examine the witnesses
4 and to speak further on these matters, but I submit
5 to you that, on the basis of the evidence of this
6 case, you should reject the Application that's been
7 submitted to you, for the reasons I've stated.
8 Thank you.

9 CHAIRMAN HALL: Thank you, Mr. Guild.

10 Okay. Now, Mr. Burgess.

11 MR. BURGESS: SCE&G calls Kevin Marsh to the
12 stand.

13 [Witness affirmed]

14 THEREUPON came,

15 KEVIN B. MARSH,
16 called as a witness on behalf of the Petitioner, South
17 Carolina Electric & Gas Company, who, having been first duly
18 affirmed, was examined and testified as follows:

19 DIRECT EXAMINATION

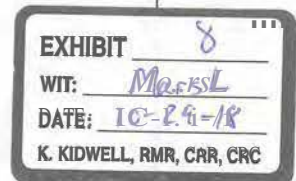
20 BY MR. BURGESS:

21 Q Mr. Marsh, would you please state your name for the
22 record?

23 A My name is Kevin Marsh.

24 Q By whom are you employed and in what capacity?

25 A I'm employed by SCANA Corporation. I'm the chief



1 executive officer.

2 Q And did you prepare or cause to be prepared under your
3 direct supervision 49 pages of direct testimony that's
4 been prefiled in this docket?

5 A I have.

6 CHAIRMAN HALL: Mr. Burgess, could you pull
7 that microphone closer? I don't think everybody
8 can hear you.

9 BY MR. BURGESS:

10 Q Mr. Marsh, were there any changes or corrections
11 required of your testimony?

12 A I have three small changes, and I'll be glad to
13 highlight those.

14 Q Would you please indicate the page number and line
15 number for those corrections that are required?

16 A The first one would be on page 17 at the bottom of the
17 page. On line seven, there's a parenthetical there that
18 starts "Approximately one-half of the Alternative
19 Resources..." Right after the opening parenthetical
20 should be inserted "In 2019-2021." So it should read
21 "In 2019-2021 approximately one-half of the Alternative
22 Resources..." on that line seven.

23 The next change is on page 25. On line three,
24 after the word "does" the word "the" should be inserted
25 between "does" and "company's." And on line four, the

1 word "stands" should be "stand"; eliminate the "s" from
2 "stands."

3 The final change is on page 46, line nine. The
4 words "as the" should be replaced with the word "for."
5 So that line would read "schedules for BLRA purposes."

6 That would be all the changes I have.

7 Q Mr. Marsh, subject to those edits in your prefilled
8 direct testimony, if I asked you all the questions
9 contained in your testimony, would your answers be the
10 same?

11 A Yes, they would.

12 MR. BURGESS: Madam Chairman, at this time, we
13 would move into the record the prefilled direct
14 testimony of Kevin Marsh as if given orally from
15 the stand.

16 CHAIRMAN HALL: All right. Mr. Marsh's
17 testimony will be entered into the record as if
18 given orally.

19 [See pgs 52-100]

20 MR. BURGESS: Thank you, Madam Chairman.

21 BY MR. BURGESS:

22 Q Mr. Marsh, have you prepared a summary of your direct
23 testimony?

24 A Yes, I have.

25 Q Would you please deliver that, at this time?

1 A I will.

2 Good morning, Madam Chairman and Commissioners.
3 SCE&G comes before the Commission today to request
4 approval of a revised construction milestone schedule
5 and revised cash flow forecast for the two new nuclear
6 units it is building in Jenkinsville, South Carolina.

7 CHAIRMAN HALL: Excuse me, Mr. Marsh. I'm
8 sorry. Could you pull that microphone a little bit
9 closer? I think the people in the back are having
10 some trouble hearing.

11 WITNESS: [Indicating.] Is that better?

12 CHAIRMAN HALL: Do we have-- okay, we're going
13 to switch the mics out.

14 [Brief pause]

15 WITNESS: Is that better?

16 CHAIRMAN HALL: Okay. For the people in the
17 back, is that better?

18 VOICE: He hasn't said anything.

19 WITNESS: Is that better?

20 VOICE: Yes.

21 CHAIRMAN HALL: Okay.

22 VOICE: Not much.

23 WITNESS: Not much? It sounded like it was
24 better with this one [indicating]. Can you hear me
25 with this one at all?

1 VOICE: Yes.

2 CHAIRMAN HALL: Okay, that's good.

3 WITNESS: I'll start over.

4 SCE&G comes before the Commission today to
5 request approval of a revised construction
6 milestone schedule and a revised cash flow forecast
7 for the two new nuclear units it is building in
8 Jenkinsville, South Carolina. This is the third
9 BLRA update proceeding since the Commission
10 initially approved the project in 2008. At that
11 time, SCE&G provided the Commission with a detailed
12 overview of the risks and challenges of building a
13 nuclear plant. We showed that the benefits to our
14 customers from new nuclear capacity far outweighed
15 the risk and challenges.

16 We are currently approximately seven years
17 into the project, and the benefits from this
18 project still far outweigh the risk. Capital costs
19 have increased by approximately \$712 million, or
20 about 15 percent, since 2008. At the same time,
21 based on current schedules and forecasts,
22 escalation on the project has declined by \$214
23 million, the financing costs on the debt to
24 construct the units has declined by approximately
25 \$1.2 billion, and the projected benefit for federal

1 production tax credits, which we will pass directly
2 to customers, has increased by approximately \$1.2
3 billion. The impact of these savings can be
4 expected to offset the impact to customers of the
5 initial – excuse me – of the increase in capital
6 costs since 2008.

7 In addition, the benefits to our customers
8 from new nuclear capacity still far outweigh the
9 risks. There is no other source of non-emitting,
10 dispatchable base-load power that can replace the
11 generation represented by the units. With both
12 units in service, SCE&G will have reduced its
13 carbon emissions by 54 percent, compared to 2005
14 levels. At that time, 61 percent of SCE&G's
15 generation will come from non-emitting sources,
16 compared to 23 percent in 2014. The units will be
17 an important part of SCE&G's plan to meet CO₂
18 emissions limitations that will be required under
19 the EPA's proposed Clean Power Plan.

20 As Dr. Lynch testifies, even with today's low
21 natural-gas prices, which I believe are not
22 sustainable over the long run, completing the units
23 remains the lowest-cost alternative for meeting
24 customers' need for additional base-load generating
25 capacity.

1 Completing the units will give SCE&G a well-
2 balanced generation system with roughly equal
3 amounts of coal, gas, and nuclear capacity. If
4 SCE&G were to meet its base-load generation needs
5 by adding new natural gas generation, then fossil
6 fuels would account for approximately 75 percent of
7 SCE&G's generation in 2021, with gas alone
8 representing 48 percent of that generation. This
9 would be an unbalanced generation portfolio that
10 would also be overly subject to environmental and
11 price risks from fossil fuels.

12 Concerning the financing of the units, as of
13 March 2015, SCE&G has successfully raised
14 approximately 46 percent of the capital needed for
15 the units, or \$3.1 billion. This includes \$1.5
16 billion in first mortgage bonds issued at an
17 average interest rate of only 4.99 percent.
18 Interest rates have been locked in on approximately
19 \$1.3 billion anticipated 2015-2016 borrowings at an
20 estimated effective rate of 5.09 percent. These
21 rates have been possible because the financial
22 community has become comfortable with the careful
23 and consistent approach the Commission and ORS have
24 used in applying the Base Load Review Act.

25 We are now entering a critical period in

1 executing the financial plan. At the 36 months
2 beginning with calendar year 2015, we will need to
3 finance approximately \$2.8 billion of investment in
4 the units. During this time, SCE&G will not have
5 the option of waiting out unfavorable market
6 conditions or postponing financing if markets have
7 become skeptical of investing in the company due to
8 unfavorable financial or regulatory results.
9 During this period, it will be vitally important
10 that SCE&G maintain access to capital markets on
11 favorable terms.

12 The BLRA addresses the two principal concerns
13 of the financial markets. One is the risk of
14 regulatory disallowances for events outside the
15 company's control. Write-downs resulting from
16 disallowances have disproportionate impact on
17 investors' risks and return calculations. Under
18 the BLRA, disallowance is permitted only if changes
19 in costs or scheduled forecasts are the result of
20 imprudence by the utility. Markets are comfortable
21 with that risk.

22 The second concern is the need for revenues to
23 pay financing costs and support debt coverage and
24 other measures of creditworthiness while the
25 project is being built. The BLRA provides for

1 regular rate adjustments during construction to pay
2 financing costs. This maintains SCE&G's
3 creditworthiness while raising the necessary funds.

4 Nothing is more important to SCE&G's financial
5 plan than maintaining market confidence and the
6 continued application of the BLRA in a fair and
7 consistent way. Loss of this confidence would put
8 the financial plan for completing the units at
9 risk. In this regard, markets see the settlement
10 agreement we've entered into with ORS and the
11 Energy Users as a positive example of how the
12 regulatory process is working in a fair and
13 rational way in South Carolina. As is always the
14 case under the BLRA, revised rates are based on
15 actual payments only, not projections or forecasts,
16 or speculative costs. ORS carefully audits all
17 amounts proposed for revised rates recovery. Only
18 actual costs are included.

19 My senior management team and I are directly
20 involved in the management and oversight of the new
21 nuclear project. We deal with the issues that
22 arise with Westinghouse aggressively and at the
23 highest levels. If we stay the course with
24 construction and with regulation, the units will
25 provide reliable, non-emitting, base-load power to

1 our customers for 60 years or more.

2 It is my opinion, based on 38 years'
3 experience in this industry, that the value of the
4 new nuclear capacity under construction today
5 remains much greater than any challenges we have
6 encountered or are likely to encounter during
7 construction of the project.

8 On behalf of SCE&G, I ask the Commission to
9 approve the updated cost forecast and construction
10 schedule for the units as presented here.

11 That concludes my summary.
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23 [PURSUANT TO PREVIOUS INSTRUCTION, THE
24 PREFILED DIRECT TESTIMONY {W/CORRECTIONS} OF
25 KEVIN B. MARSH FOLLOWS AT PGS 52-100]

Please note: The change(s)/correction(s) noted herein reflect testimony given during the hearing in this matter.

DIRECT TESTIMONY

OF

KEVIN B. MARSH

ON BEHALF OF

SOUTH CAROLINA ELECTRIC & GAS COMPANY

DOCKET NO. 2015-103-E

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.

A. My name is Kevin Marsh and my business address is 220 Operation Way, Cayce, South Carolina. I am the Chairman and Chief Executive Officer of SCANA Corporation and South Carolina Electric & Gas Company ("SCE&G" or the "Company").

Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I am a graduate, magna cum laude, of the University of Georgia, with a Bachelor of Business Administration degree with a major in accounting. Prior to joining SCE&G, I was employed by the public accounting firm of Deloitte, Haskins & Sells, now known as Deloitte & Touche, L.L.P. I joined SCE&G in 1984 and, since that time, have served as Controller, Vice President of Corporate Planning, Vice President of Finance, and Treasurer. From 1996 to 2006, I served as Senior Vice

1 President and Chief Financial Officer ("CFO") of SCE&G and SCANA.
2 From 2001-2003, while serving as CFO of SCE&G and SCANA, I also
3 served as President and Chief Operating Officer of PSNC Energy in North
4 Carolina. In May 2006, I was named President and Chief Operating Officer
5 of SCE&G. In early 2011, I was elected President and Chief Operating
6 Officer of SCANA and I became Chairman and Chief Executive Officer of
7 SCANA on December 1, 2011.

8 **Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION BEFORE?**

9 **A.** Yes. I have testified in a number of different proceedings.

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
11 **PROCEEDING?**

12 **A.** In the Petition (the "Petition"), the Company requests that the Public
13 Service Commission of South Carolina (the "Commission") approve an
14 updated construction schedule and schedule of forecasted capital costs for
15 the project to construct V.C. Summer Units 2 & 3 (the "Units"). My
16 testimony explains the requests contained in the Petition and the value the
17 Units represent to SCE&G's customers, to its partner, Santee Cooper, and
18 to the State of South Carolina. I discuss the importance of this proceeding
19 to SCE&G's plan for financing the Units and how this proceeding fits
20 within the structure of the Base Load Review Act ("BLRA.")

21 **Q. WHAT OTHER WITNESSES ARE PRESENTING DIRECT**
22 **TESTIMONY ON BEHALF OF THE COMPANY?**

1 **A.** The other witnesses presenting direct testimony on behalf of the
2 Company are Mr. Stephen A. Byrne, Mr. Ronald A. Jones, Ms. Carlette L.
3 Walker and Dr. Joseph M. Lynch.

4 1. Mr. Byrne is the President for Generation and Transmission
5 and Chief Operating Officer of SCE&G. His testimony reviews the current
6 status of the construction of the Units and presents the updated construction
7 schedule provided by the contractors, Westinghouse Electric Company,
8 LLC ("WEC") and Chicago Bridge & Iron ("CB&I") (collectively
9 "WEC/CB&I"). Mr. Byrne also testifies concerning the commercial issues
10 with WEC/CB&I related to the project.

11 2. Mr. Jones is the Vice President for New Nuclear Operations
12 for SCE&G. Mr. Jones will testify concerning change orders related to the
13 project that SCE&G has agreed to with WEC/CB&I, changes in the
14 Estimated at Completion ("EAC") costs and changes in Owner's cost
15 arising from the new project schedule and other matters.

16 3. Ms. Walker is Vice President for Nuclear Finance
17 Administration at SCANA. She sponsors the current cost schedule for the
18 project and presents accounting, budgeting and forecasting information
19 supporting the reasonableness and prudence of the adjustments in cost
20 forecasts. Ms. Walker also testifies in further detail concerning key drivers
21 of the changes in the Owner's cost forecast.

1 4. Dr. Lynch is Manager of Resource Planning at SCANA. He
2 will testify concerning updated studies showing that even considering
3 historically low natural gas prices, completing the Units remains the lowest
4 cost option for meeting the generation needs of SCE&G's customers.

5 All Company witnesses testify in support of the reasonableness and
6 prudence of the updated construction schedule and the costs it represents.
7 From my knowledge of the project and my perspective as SCE&G's Chief
8 Executive Officer, I can affirmatively testify that SCE&G is performing its
9 role as project owner in a manner that is reasonable, prudent, cost-effective
10 and responsible. The other witnesses are providing similar testimony about
11 the project from their particular areas of expertise.

12 **Q. PLEASE PROVIDE AN OVERVIEW OF THE REGULATORY**
13 **HISTORY OF THE PROJECT.**

14 A. In 2005, SCE&G began to evaluate alternatives to meet its
15 customers' need for additional base load capacity in the coming decades.
16 In this evaluation, the Company took account of its aging fleet of coal-fired
17 units, the volatility in global fossil-fuel markets, and the increasingly
18 stringent environmental regulations being imposed on fossil-fuel
19 generation. In its evaluation, the Company sought proposals from three
20 suppliers of nuclear generation units. The evaluation of all alternatives
21 resulted in the Company signing an Engineering, Procurement, and
22 Construction Agreement (the "EPC Contract") with what is now

1 WEC/CB&I on May 23, 2008, after two and one-half years of negotiations.

2 On May 30, 2008, the Company filed a Combined Application under the
3 BLRA seeking review by the Commission and ORS of the prudence of the
4 project and the reasonableness of the EPC Contract. The cost schedule
5 presented to the Commission in 2008 also included a reasonable forecast of
6 owner's contingency for the project. SCE&G's share of the total anticipated
7 cost was \$4.5 billion.¹ In December 2008, the Commission held nearly
8 three weeks of hearings and took evidence from 22 expert witnesses about
9 the project, the contractors, the EPC Contract and risks of construction.

10 **Q. WHAT WAS THE RESULT OF THOSE PROCEEDINGS?**

11 A. On March 2, 2009, the Commission issued Order No. 2009-104(A)
12 approving the prudence of the project and the schedules presented by the
13 Company. The South Carolina Supreme Court reviewed the Commission's
14 determinations and ruled that "based on the overwhelming amount of
15 evidence in the record, the Commission's determination that SCE&G
16 considered all forms of viable energy generation, and concluded that
17 nuclear energy was the least costly alternative source, is supported by
18 substantial evidence." *Friends of Earth v. Pub. Serv. Comm'n*, 387 S.C.
19 360, 369, 692 S.E.2d 910, 915 (2010). In a related case, *S.C. Energy Users*
20 *Comm. v. S.C. Pub. Serv. Comm'n*, 388 S.C. 486, 697 S.E.2d 587 (2010),

¹ Unless otherwise specified, all cost figures in this testimony are stated in 2007 dollars and reflect SCE&G's share of the cost of the Units.

the Court ruled that costs which were not identified and itemized to specific expense items—specifically, owner’s contingency costs—could not be included in the Commission-approved cost schedule for the Units. In denying contingencies, the Court recognized that the BLRA allows the Company to return to the Commission to seek approval of updates in cost and construction schedules as the Company is doing here.

Q. PLEASE DESCRIBE THE COST AND SCHEDULE UPDATES SINCE ORDER NO. 2009-104(A) WAS ISSUED.

A. Since 2009, SCE&G has appeared before the Commission three times to update the cost and construction schedules for the Units.

1. In 2009, the Commission updated the construction schedule to reflect a site-specific integrated construction schedule for the project which WEC/CB&I had recently completed. The 2009 update changed the timing of cash flows for the project, but the total forecasted cost for the Units of \$4.5 billion did not change.
2. A 2010 update removed un-itemized owner’s contingency from the cost schedule in response to the decision in *S.C. Energy Users Comm. v. S.C. Pub. Serv. Comm’n, supra.* The Company also identified approximately \$174 million in costs that previously would have been covered by the owner’s contingency. The approved cost of the project dropped from \$4.5 to \$4.3 billion.

1 3. In 2012, the Commission updated the capital cost forecasts and
 2 construction schedule. The cost forecasts were based on a
 3 settlement between SCE&G and WEC/CB&I for cost increases
 4 associated with:

- 5 a. The delay in the Combined Operating License ("COL")
 6 issued by the Nuclear Regulatory Commission (the
 7 "NRC");
- 8 b. WEC's redesign of the AP10000 Shield Building;
- 9 c. The redesign by WEC/CB&I of certain structural modules
 10 to be used in the Units; and
- 11 d. The discovery of unanticipated rock conditions in the Unit
 12 2 Nuclear Island ("NI") foundation area.

13 The Commission also updated the anticipated schedule of Owner's
 14 cost to reflect more detailed operations and maintenance planning; new
 15 safety standards issued after the Fukushima event; and other matters. The
 16 2012 update also involved several specific EPC Contract change orders. It
 17 increased the anticipated cost for the Units from \$4.3 billion to \$4.5 billion.
 18 The Commission adopted these new schedules in Order No. 2012-884.
 19 South Carolina Supreme Court affirmed that order in *S.C. Energy Users*
 20 *Comm. v. S.C. Elec. & Gas*, 410 S.C. 348, 764 S.E. 2d 913 (2014).

21 **Q. PLEASE PROVIDE AN OVERVIEW OF THIS PETITION.**

1 **A.** In this proceeding, SCE&G seeks approval of the revised milestone
 2 schedule (the “Revised Milestone Schedule”) attached to Company Witness
 3 Byrne’s direct testimony as Exhibit ____ (SAB-2). The updated schedule is
 4 based on information recently provided to SCE&G by WEC/CB&I. It
 5 shows new substantial completion dates for Units 2 and 3 of June 19, 2019,
 6 and June 16, 2020, respectively (the “Substantial Completion Dates”).²

7 SCE&G has also submitted a revised cash flow forecast for the
 8 project (the “Revised Cash Flow Forecast”). That schedule is attached to
 9 Company Witness Walker’s direct testimony as Exhibit No. ____ (CLW-1).
 10 It shows an updated cost forecast for the Units dollars of \$5.2 billion, which
 11 is an increase of approximately \$698 million, or 15%, from the costs
 12 approved in Order No. 2012-884.³ Chart A, below, summarizes these
 13 adjustments.

² SCE&G has not, however, accepted WEC/CB&I’s contention that the new Substantial Completion Dates are made necessary by excusable delays. Nothing in this testimony should be taken as a waiver or abandonment of any claims SCE&G may have against WEC/CB&I. Explanations of the reasons for certain delay or cost increases should not be taken as an indication that SCE&G agrees that the associated delays or cost increases are excusable under the EPC Contract or that WEC/CB&I is not liable to SCE&G for the resulting costs and other potential damages.

³ This \$698 million is net of approximately \$86 million in liquidated damages that SCE&G intends to seek from WEC/CB&I for the delays. While WEC/CB&I disputes this claim, SCE&G does not believe that WEC/CB&I’s counter position should be recognized in determining anticipated payments to complete the project.

CHART A SUMMARY OF COST ADJUSTMENTS (millions of dollars)			
	Delay Cost	Non-Delay Cost	Total Cost
ESTIMATE AT COMPLETION (EAC) COST*			
Associated with Delay	\$ 228.1		
Less: Liquidated Damages	\$ (85.5)		
Net Associated with Delay			\$ 142.6
Not Associated with Delay			
Other EAC Cost			
Productivity and Staffing Ratios		\$ 154.8	
WEC T&M Changes		\$ 27.4	
Total: Other EAC Costs		\$ 182.2	
Design Finalization		\$ 71.9	
Total Not Associated with Delay			\$ 254.1
TOTAL EAC COST ADJUSTMENT			\$ 396.7
OTHER EPC ADJUSTMENTS			
Ten Change Orders		\$ 56.5	
Less: Switchyard Reallocation		\$ (0.1)	
TOTAL EPC COST ADJUSTMENT			\$ 453.1
OWNER'S COST			
Associated with Delay	\$ 214.3		
Not Associated with Delay		\$ 30.8	
TOTAL OWNER'S COST ADJUSTMENT			\$ 245.1
TOTAL ADJUSTMENT	\$ 356.9	\$ 341.3	\$ 698.2
TOTAL ADJUSTMENT	\$ 442.4	\$ 341.3	\$ 783.8
(Without Liquidated Damages)			
Totals may vary due to rounding.			
* Delay and Other EAC Costs as reported in the Petition is \$411 million. It includes (a) EAC Costs Associated with Delay (\$228.1 million), and (b) Other EAC Cost (\$182.2 million).			

1

2 **Q. HOW DOES THE CURRENT ANTICIPATED COST OF THE**
3 **PROJECT TO CUSTOMERS COMPARE TO THE ORIGINAL**
4 **PROJECTIONS?**

5 **A.** While the base capital cost of the project has increased, several
6 components of the ultimate cost of the project to customers are projected to
7 offset this increase:

8 a. **Capital cost.** Capital costs are increasing by \$712 million in 2007
9 dollars compared to the amount approved in Docket 2008-196-E. The
10 \$712 million increase reference here is different than \$698 million
11 increase referenced in the Petition but both are correct. The total cost
12 approved in Order No. 2012-884 was more than that approved in Order
13 No. 2009-104(A) by approximately \$14 million. As a result the increase
14 in anticipated costs is approximately \$698 million when compared to
15 Order No. 2012-884 and \$712 million when compared to Order No.
16 2009-104(A).

17 b. **Escalation.** The forecasted cost of escalation on the project has declined
18 by \$214 million compared to 2008. This is true even taking into account
19 the increased cost of the project, and the effect of extending the project
20 by two years.

1 c. **Financing.** Since 2008, SCE&G has been able to obtain low-cost
2 borrowing for the project based on support from the BLRA, SCE&G's
3 favorable bond ratings, and the low cost of financing available in debt
4 markets. Compared to the projections presented in 2008, customers are
5 anticipated to save approximately \$1.2 billion in interest costs (in future
6 dollars) over the life of the debt that has been issued to date to finance
7 the project and on future issuances where interest rates have been
8 hedged.

9 d. **Production Tax Credits.** The 2005 Energy Policy Act provides a
10 production tax credit to qualifying new nuclear units of 1.8 cents per
11 kWh during the first eight years of operation. The credits are limited to
12 6,000 MW of nuclear capacity built during a specified period with
13 qualifying units sharing the credits pro rata. In 2008, SCE&G
14 anticipated its total benefit would be \$1.06 billion gross of tax. Now it
15 appears that there will be a smaller number of competing utilities so that
16 SCE&G will receive a larger amount of credits. Assuming that the
17 current completion dates can be maintained, SCE&G's forecasted
18 benefit has increased by approximately \$1.2 billion in future dollars
19 since 2008. SCE&G intends to pass all of the savings from the tax
20 credits directly to its customers as fuel cost credits.

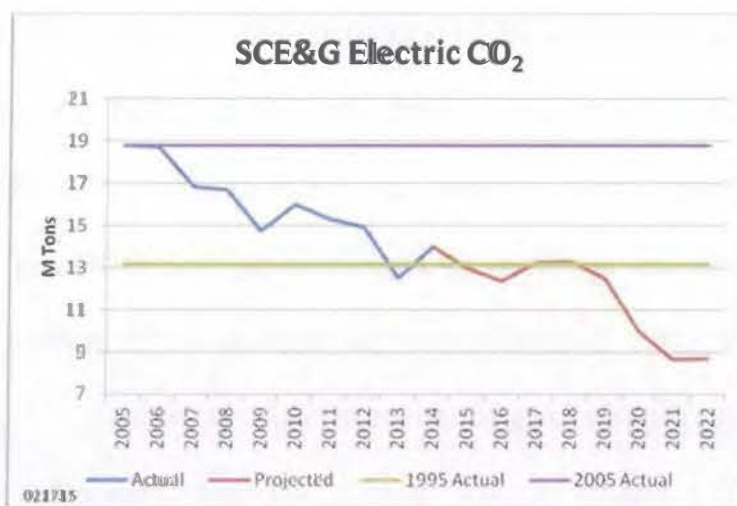
21 The impact of these savings will more than offset the impact to
22 customers of the forecasted \$712 million increase in 2007 capital cost. For

that reason, the combined capital and related cost to customers today does not exceed the estimate provided to the Commission in 2008.

Q. HOW HAS THE VALUE OF THE UNITS TO SCE&G'S SYSTEM CHANGED IN RECENT YEARS?

A. When SCE&G and Santee Cooper made the decision to construct these Units, they did so to capture the value of adding 2,234 MW of efficient and non-emitting base-load generation to their generation portfolios to serve the people of South Carolina. In large part because of the Units, SCE&G projects that by 2021 it will have reduced its carbon emissions by 54% compared to their 2005 levels, and 34% compared to 1995 levels. Chart B shows the forecasted reduction in CO₂ emissions in millions of tons:

Chart B
SCE&G's Forecasted CO₂ Emissions



1 There have also been immediate environmental benefits from the
2 Units. In 2008, the Company committed to evaluate whether building the
3 Units might support retiring smaller coal units. The Company has followed
4 through on this commitment. Since 2008, SCE&G put in place plans to
5 retire 730 MW of smaller coal generating facilities. Canadys Units 1, 2 and
6 3 have been taken out of service. Urquhart Unit 3 has been converted to gas
7 generation only. For reliability purposes, SCE&G must maintain
8 McMeekin Units 1 and 2 in service pending the completion of the new
9 nuclear Units. But the current plan is to fuel the McMeekin units with
10 natural gas after April 15, 2016. They may be taken out of service
11 altogether when the Units come on line. SCE&G plans to bridge the gap
12 between these retirements and the completion of the new nuclear Units
13 through interim capacity purchases.

14 **Q. HOW DOES THE ENVIRONMENTAL PROTECTION AGENCY'S**
15 **(“EPA”) PROPOSED CLEAN POWER PLAN AFFECT THE**
16 **VALUE OF THE UNITS?**

17 **A.** EPA's proposed Clean Power Plan was issued in June 2014. The
18 accompanying Clean Power Plan regulations are not yet in final form. But
19 they will require substantial cuts in CO₂ emissions from most state's
20 electric generation fleets. Planning for these reductions underscores the
21 value and importance of nuclear generation.

22 **Q. HOW DOES THE CLEAN POWER PLAN WORK?**

1 A. The Clean Power Plan is based on Section 111(d) of the Clean Air
2 Act which governs existing generating units. In that plan, EPA has
3 computed a target carbon intensity rate for each state's fleet of existing
4 large power plants. That target carbon intensity rate is expressed in pounds
5 of carbon per megawatt hour of electricity generated (lb/MWh). The Plan
6 leaves it to the states to decide how to achieve mandated reductions and
7 how to allocate those reductions among plant operators.

8 In computing the target for South Carolina, EPA treats the Units as
9 existing units and assumes that they were operating at a 90% capacity
10 factor in 2012. The plan then mandates reductions in carbon intensity rate
11 from that artificially reduced baseline.

12 **Q. WHAT ARE THE SPECIFIC LIMITS BEING PROPOSED FOR**
13 **SOUTH CAROLINA?**

14 A. EPA is proposing that South Carolina reduce its discharges from its
15 actual 2012 carbon intensity of 1,587 lb/MWh to 772 lb/MWh, a 51%
16 reduction. Compliance will be phased-in beginning in 2020. In its
17 comments to EPA, SCE&G has proposed that the Units not be included in
18 the 2012 baseline calculation. If that is done, South Carolina's carbon
19 intensity target goes to 990 lb/MWh which would mean a reduction in
20 carbon emissions of 38% compared to actual 2012 emissions.

21 **Q. HOW DOES THIS AFFECT THE VALUE OF THE UNITS TO**
22 **SCE&G'S CUSTOMERS?**

1 **A.** It is not clear how the proposed EPA regulations will change, or how
2 the State will allocate the required reductions among affected power plant
3 owners. However, for South Carolina to meet its targets efficiently, it will
4 be critically important to complete the Units. There is no other source of
5 non-emitting, dispatchable, base load power available to replace the
6 generation represented by the Units. Generation sources that produce any
7 air emissions are now under intense regulatory pressure. There is no reason
8 to assume that this trend will not continue over the long term. Adding non-
9 emitting nuclear generation has tremendous value in the current
10 environmental context.

11 **Q. WHAT ABOUT OTHER NON-EMITTING TECHNOLOGIES?**

12 **A.** Solar and renewable resources and energy efficiency will play an
13 increasingly important role in SCE&G's generation mix going forward.
14 SCE&G was an active participant in the group that formulated and
15 advocated the adoption of the South Carolina Distributed Energy Resources
16 Act found in Act No. 236 of 2014. SCE&G is currently working to achieve
17 the renewable resources goals established by the South Carolina General
18 Assembly in that Act. The achievement of those goals is fully reflected in
19 all of our capacity and generation forecasts. The same is true of the energy
20 efficiency goals established in SCE&G Demand Side Management (DSM)
21 program as approved by this Commission. However, with current

1 technologies, renewable resources and energy efficiency cannot displace
2 the need for reliable, dispatchable base load generation.

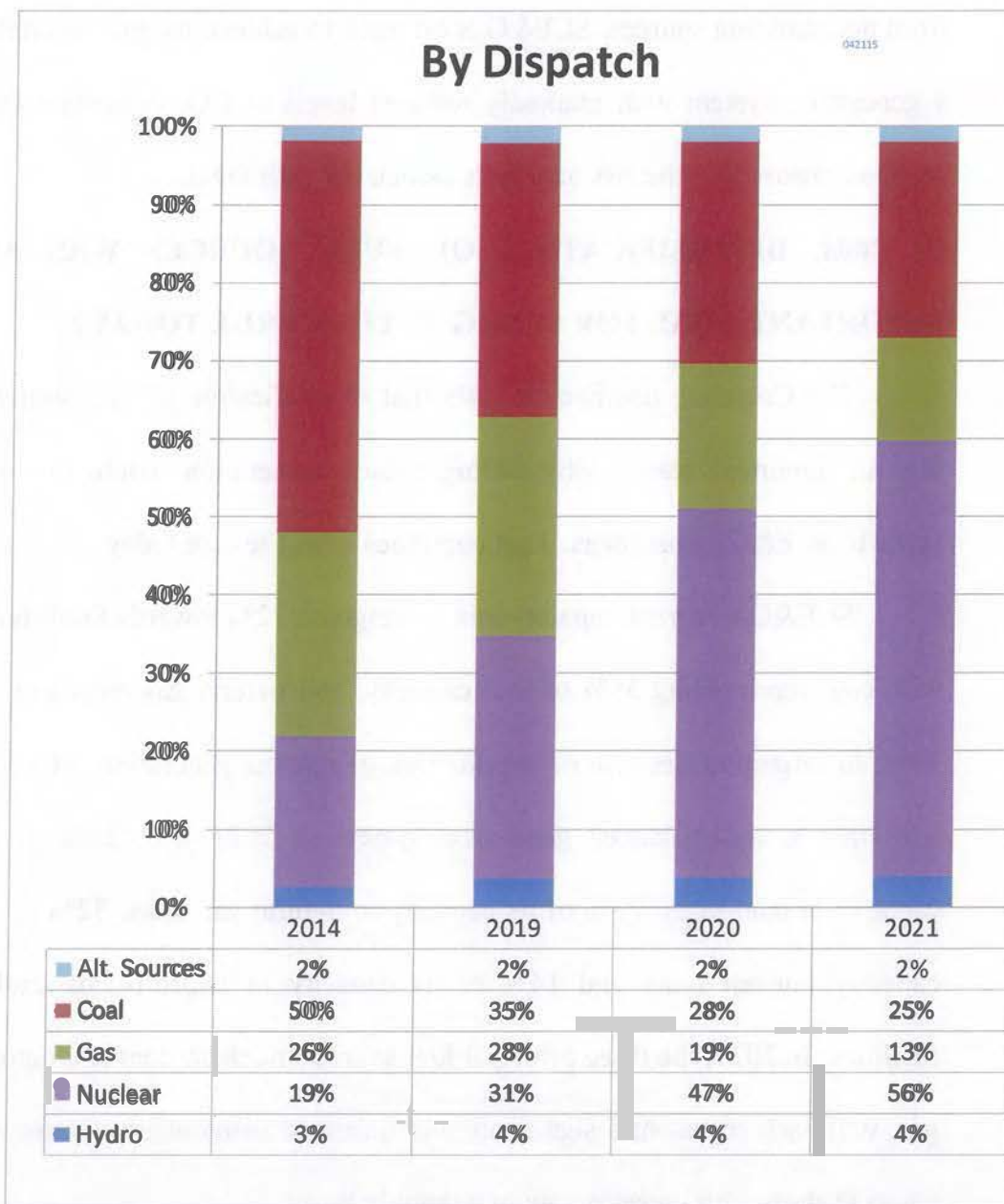
3 Because of EPA regulations limiting carbon discharges, it is
4 extremely difficult to permit new coal generation. For that reason, the only
5 dispatchable, base load alternative to nuclear generation today is combined-
6 cycle natural gas generation. Natural gas generation involves lower levels
7 of CO₂, NO_x, and SO_x emissions than coal. However, natural gas
8 generation does entail some emissions of CO₂ and the six criteria air
9 pollutants. Nuclear generation remains the only base load resource that is
10 entirely non-emitting with respect to these air pollutants.

11 **Q. WHAT IS SCE&G'S PLAN TO REDUCE ITS CO₂ EMISSIONS?**

12 **A.** As the Company's witnesses testified in 2008, one of SCE&G's
13 long-term goals in choosing to use new nuclear generation was to create a
14 system with a majority of its energy being supplied from non-emitting
15 sources. Chart C on the following shows how that plan stands today.

16 [Chart C begins on the following page]

Chart C
SCE&G's Current and Forecasted Generation Mix



In 2014, 23% of SCE&G generation of energy was from non-emitting facilities. In 2019-2021, approximately one-half of the Alternative Resources

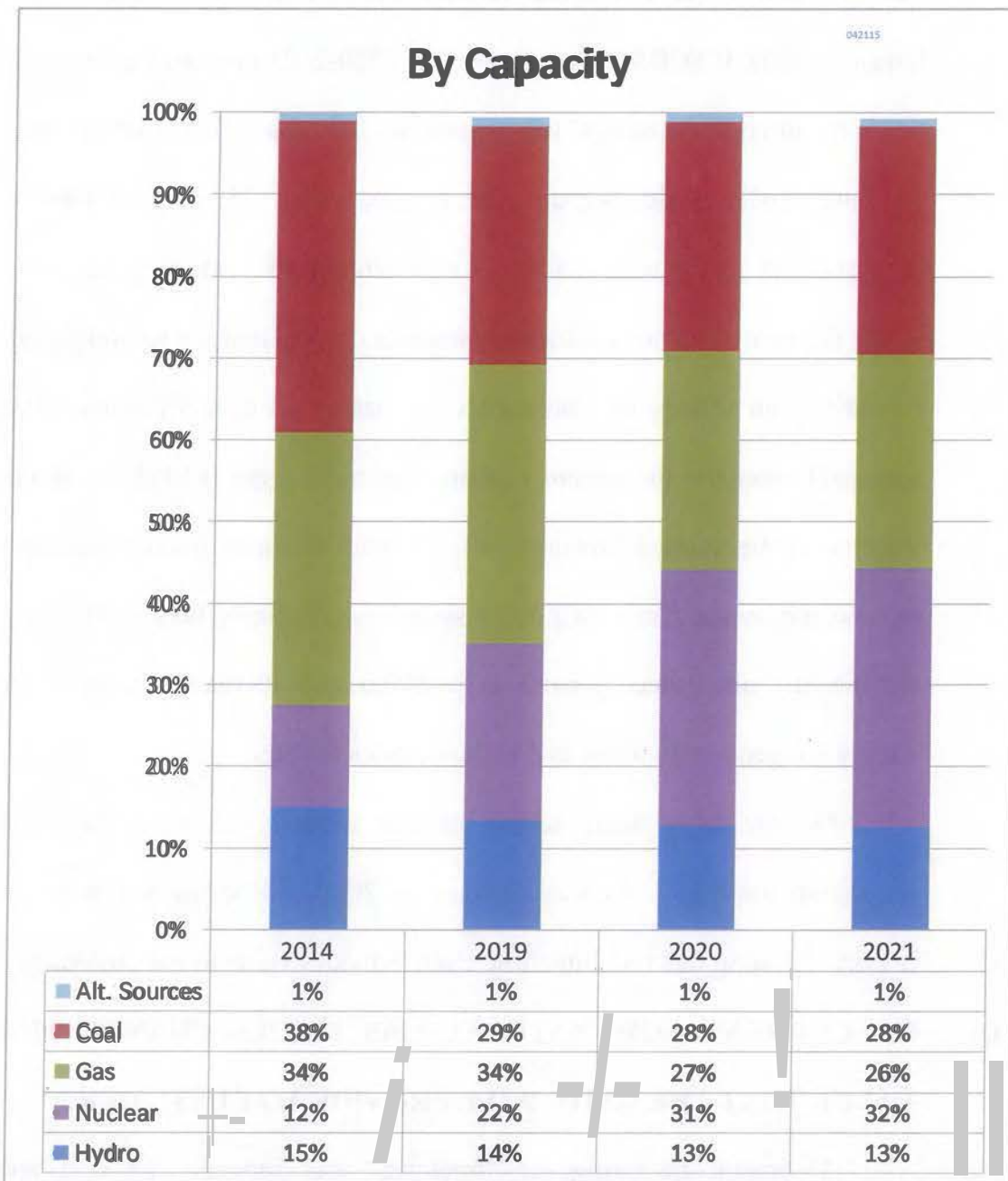
1 listed in Chart C are ~~non-emitting~~. The remainder is biomass). In 2021,
2 which is the first full year that both Units 2 and 3 will be on line, we
3 estimate that 61% of the energy serving SCE&G's customers will come
4 from non-emitting sources. SCE&G is on track to achieve its goal to create
5 a generating system with markedly reduced levels of CO₂ emissions and
6 reduced exposure to the risk and costs associated with them.

7 **Q. IN 2008, DIVERSIFICATION OF FUEL SOURCES WAS AN**
8 **IMPORTANT GOAL FOR SCE&G. IS THAT TRUE TODAY?**

9 **A.** The Company testified in 2008 that diversification of fuel sources
10 was an important reason why adding nuclear generation would provide
11 value to SCE&G's customers. That continues to be the case today.

12 SCE&G's current capacity mix is weighted 72% towards fossil fuel,
13 with coal representing 38% of that capacity, and natural gas representing
14 34%. In large part because of the addition of nuclear generation, SCE&G
15 will have a well-balanced generation system in 2021 with 28% of its
16 capacity in coal units, 26% of its capacity in natural gas units, 32% of its
17 capacity nuclear units and 14% of its capacity in hydro/biomass/solar
18 facilities. In 2021, the three principal fuel sources, nuclear, coal and natural
19 gas, will each represent a significant and balanced component of capacity.
20 Chart D shows this capacity mix in a graphic form:

Chart D
SCE&G's Current and Forecasted Capacity Mix



Creating this balanced mix of capacity will give SCE&G operating flexibility to respond to changing market conditions and environmental regulations. I am not aware of a cost effective way today to create this

1 flexibility other than by adding new nuclear capacity. This is particularly
2 true now that for environmental reasons adding new coal capacity is no
3 longer feasible. If SCE&G were to meet its 2020-2021 base load generation
4 needs by adding new natural gas generation, then fossil fuels (natural gas,
5 oil, and coal) would account for approximately 75% of SCE&G's
6 generation in 2021, with gas alone representing 48% of its generation.
7 Given the increasing environmental pressures on coal and the technological
8 limitations on relying on renewables for base load capacity, under any
9 reasonable scenario the system's reliance on natural gas is likely to go up
10 steadily in the years following 2021. Without the new nuclear capacity
11 represented by the Units, SCE&G's system would likely be locked into a
12 significantly unbalanced generation portfolio with increasing reliance on
13 natural gas generation today and in the decades to come.

14 On the other hand, adding nuclear capacity creates a balanced
15 generation portfolio. As was the case in 2008, this continues to be an
16 important reason that building these Units provides value to our customers.

17 **Q. DO CURRENT LOW NATURAL GAS PRICES CHANGE THE**
18 **VALUE THAT THE UNITS WILL PROVIDE TO CUSTOMERS?**

19 **A.** Hydraulic fracturing, or "fracking," has reduced the cost and
20 increased the supply of natural gas at this time and for some years in the
21 future. However, predictions of future natural gas prices are notoriously
22 unreliable over the long-term. The planning horizon for determining the

1 value of a nuclear unit is 60 years or more. Prices for fuels are historically
 2 volatile as natural gas will change over that time. The lesson of history is
 3 that fossil fuel prices will change dramatically and unexpectedly over that
 4 long a time. Therefore, prudent utility generation plans seek to create
 5 balanced systems that can respond as prices fluctuate over time and are not
 6 overly dependent on any one fuel source. As discussed above, that is what
 7 SCE&G's generation plan seeks to do.

8 In the case of natural gas supplies and fracking, there are efforts
 9 underway to limit fracking based on environmental concerns. But the issues
 10 go beyond fracking. The Sierra Club indicates on its current website that it
 11 is committed to "putting natural gas back in the dirty box with its fossil fuel
 12 brethren." In its "Beyond Natural Gas" campaign, the Sierra Club tells
 13 readers of its website that "[t]otal life-cycle emissions for coal and gas are
 14 nearly equivalent," and that "[t]he Sierra Club continues to legally
 15 challenge new natural gas plants and demand requirements that limit their
 16 emissions of greenhouse gases." According to the Sierra Club, "[n]atural
 17 gas is not part of a clean energy future."⁴ It is only reasonable to assume
 18 that once coal plants are closed, restricting natural gas generation will
 19 become the principal focus of entities like the Sierra Club.

20 In addition, domestic United States natural gas prices are still out of
 21 line with global prices:

⁴ <http://content.sierraclub.org/naturalgas/protect-our-climate> (accessed May 20, 2015).

CHART E

Landed LNG Prices, April 2015

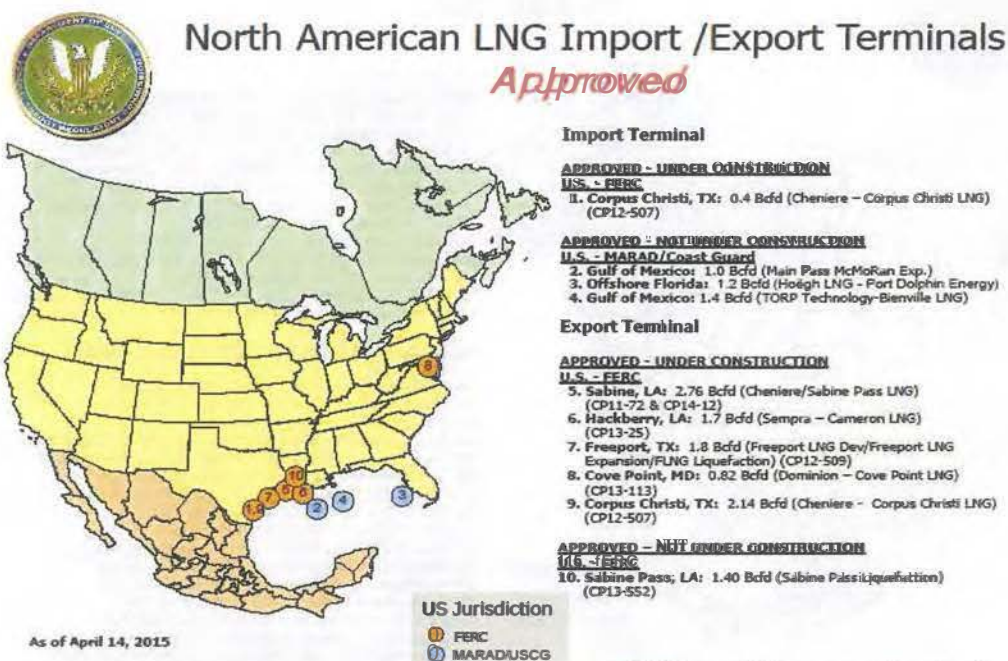
(\$US/MBTU)


<http://www.ferc.gov/market-oversight/mkt-gas/overview/ngas-ovr-lng-wld-pr-est.pdf>

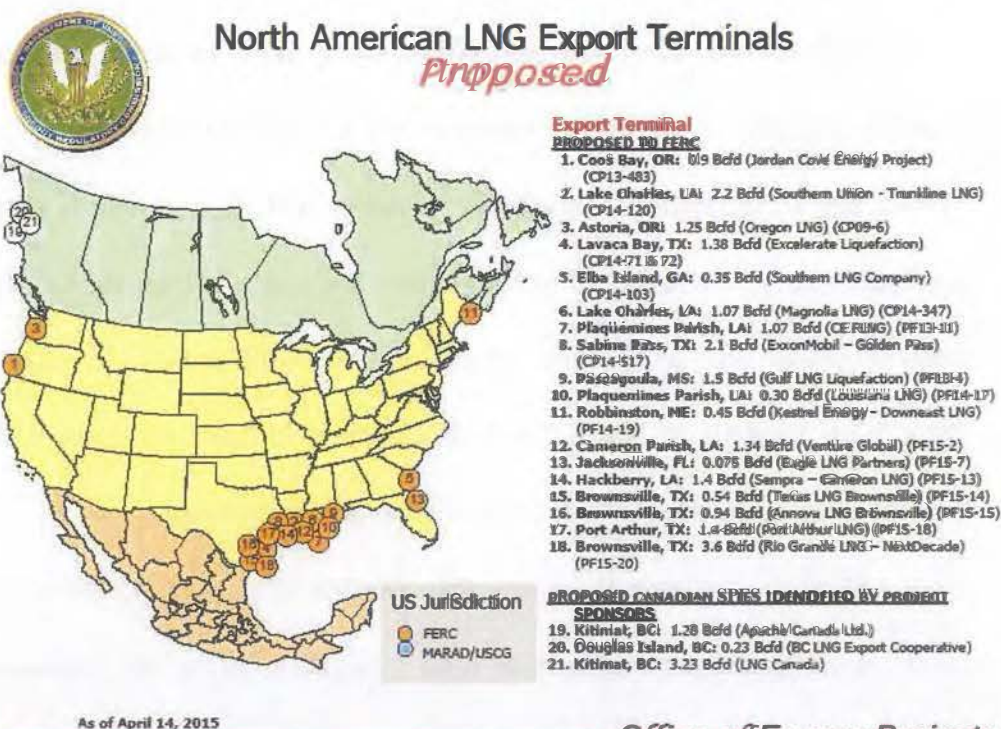
Updated: April 2015

How long the current price disparities can remain is difficult to determine. But there is every reason to expect that in the coming years U.S. natural gas prices may begin to respond to global markets and the global hunger for energy. Major energy companies are moving to expand their infrastructure to export natural gas produced in the United States as liquefied natural gas ("LNG"). A review of the reported 2015 data indicate that 24 new LNG export facilities have been approved or proposed to be permitted in the United States. Another 26 sites are listed as potential export sites in North America.

1

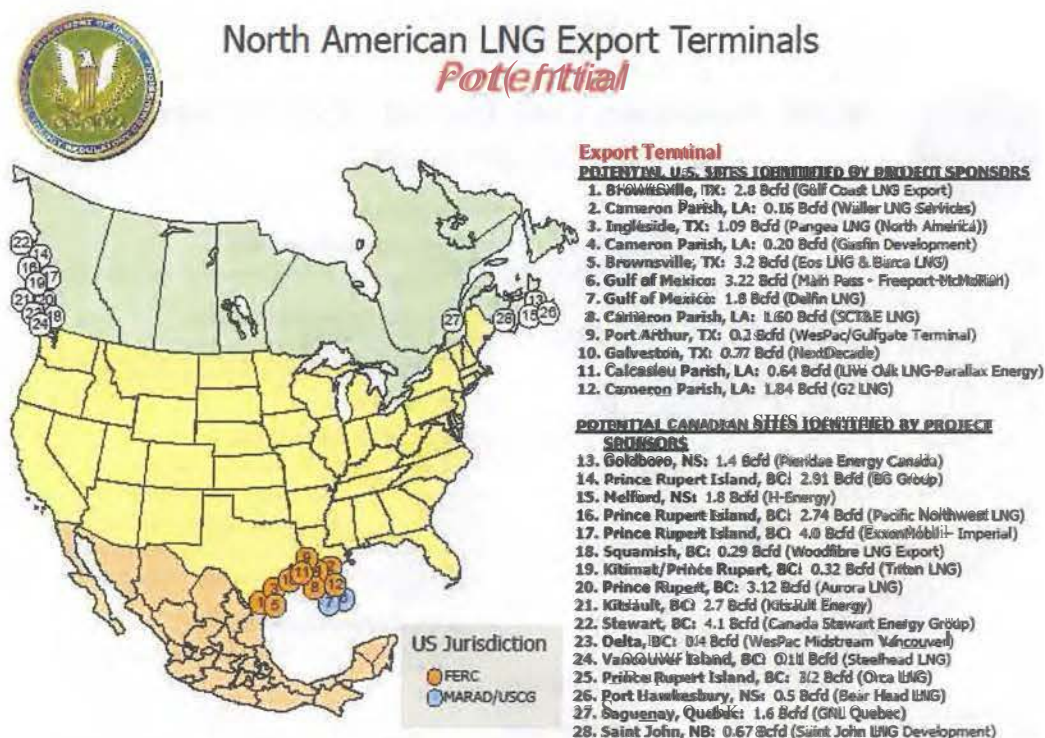
CHART F

2

Office of Energy Projects

3

Office of Energy Projects



As of April 14, 2015

Office of Energy Projects

Furthermore, there are questions about how to make sufficient pipeline capacity available to transport natural gas to consumers if the greater part of the nation's future energy needs will be supplied by natural gas indefinitely. A number of new pipelines are under construction or have been proposed such as the new Atlantic Coast Pipeline being constructed from West Virginia to North Carolina. Capacity in these pipelines will be significantly more expensive than existing pipeline capacity.

SCE&G continues to believe that over the long planning horizon that is involved when procuring base load generation units, the unbalanced reliance on any single fuel source is dangerous from both a cost and a reliability standpoint. Over the long-term, prices will change unpredictably.

1 I have testified to that fact before this Commission in past proceedings. It
2 continues to be my firm belief

THE

3 **Q. WHERE DOES /COMPANY'S FINANCIAL PLAN REGARDING**
4 **THE UNITS PLAN STAND TODAY?**

5 A. As of March 2015, SCE&G had successfully raised the capital
6 necessary to support \$3.1 billion of the \$6.8 billion cost of the Units in
7 future dollars (which is comparable to \$5.2 billion in 2007 dollars). This
8 represents approximately 46% of the value of the Units when completed.
9 SCE&G has supported this investment through issuance of debt in the form
10 of first mortgage bonds of SCE&G and equity from SCE&G's retained
11 earnings, and sales of common stock by SCANA and retained earnings of
12 SCANA, the proceeds of which have been contributed to SCE&G. Where
13 possible, SCE&G has locked in favorable interest rates for future
14 borrowings. As of March 2015, interest rates on approximately \$1.3 billion
15 in anticipated 2015-2016 borrowings have been locked in at an estimated
16 effective rate of 5.09%.

17 **Q. HOW HAS THE FINANCIAL COMMUNITY RESPONDED TO**
18 **SCE&G'S BORROWING TO SUPPORT THE UNITS?**

19 A. As evidenced by SCE&G's recent debt offerings, the financial
20 community has been supportive of SCE&G's plan to finance the
21 construction of these Units. The financial community is comfortable with
22 the careful and consistent approach to applying the BLRA that has been

1 followed by the ORS and Commission since its adoption. Since 2009,
2 SCE&G has issued approximately \$1.5 billion in first mortgage bonds
3 through eight separate issues that are directly related to the nuclear project.
4 The weighted average interest rate of these bonds is only 4.99%.

5 **Q. COULD YOU PROVIDE EXAMPLES OF SUCCESSFUL**
6 **MARKETING OF BONDS IN RECENT YEARS?**

7 **A.** SCE&G's \$250 million bond issue in February 2011 was
8 oversubscribed by a factor of eight and was ultimately priced at the lowest
9 end of the indicated interest rate range. SCE&G's \$250 million bond issue
10 in January 2012 was oversubscribed by a factor of six and, when issued,
11 bore "one of the lowest 30-year coupons of all time," as reported at the time
12 by Credit Suisse. Nevertheless, the next issue, which was SCE&G's \$250
13 million issue in July 2012, bore a yield which "represent[ed] the lowest 30-
14 year utility yield on record," as reported at that time by Well Fargo.
15 SCE&G's \$300 million May 2014 bond issue represented the first 50-year
16 bond issued in the utility and power sector and only the sixth such bond
17 ever issued in the United States. It was oversubscribed by a factor of 13 and
18 was issued at a rate estimated to be only 35 basis points higher than a 30-
19 year bond would have borne.

20 **Q. HOW DID THE MARKET RESPOND TO SCE&G'S MOST**
21 **RECENT BOND ISSUE?**

1 **A.** In May of this year, SCE&G issued \$500 million in 50-year first
2 mortgage bonds. The interest rate was favorable at 5.1%. However, on the
3 day of the issuance the subscriptions for this issue were slow in coming. At
4 one point, it appeared that the entire \$500 million might not be sold. In the
5 closing hours of the offering, it required a slight nudge upward in the
6 interest rate to bring the book of potential buyers from \$400 million to the
7 expected \$500 million. While the interest rate on the bonds was still very
8 good, it was the first time in recent years that the issuance was not
9 oversubscribed. In most other cases, the bonds were quickly
10 oversubscribed.

11 **Q. DO YOU KNOW WHY THESE BONDS WERE MORE DIFFICULT**
12 **TO SELL?**

13 **A.** We polled several investment banking firms involved in the
14 transaction. They reported that an important factor for many potential
15 buyers was their concern over regulatory risk related to the current filing.
16 Bond buyers have options. If bond buyers have concerns about SCE&G's
17 risk profile, it is often just as easy for them to buy bonds of companies that
18 do not face such risks as to buy SCE&G's bonds.

19 **Q. WHAT IS YOUR CONCLUSION FROM THESE FACTS?**

20 **A.** The market is becoming increasingly sensitive to SCE&G's
21 regulatory risk in the nuclear context. The 'overhang' of the current
22 proceeding has brought that risk into focus for the market. We were able to

1 complete the transaction successfully and at a good interest rate, but what
2 we learned is that the risk of losing market support for our financing plan is
3 real. That could happen if the market loses confidence in the consistent
4 application of the BLRA.

5 **Q. WHAT IS THE FINANCIAL PLAN FOR COMPLETING THE**
6 **UNITS GOING FORWARD?**

7 **A.** In mid-2015, we are entering a critical time in the execution of our
8 financial plan. We anticipate spending approximately \$940 million on the
9 Units in 2015, approximately \$1 billion in 2016, and approximately \$900
10 million in 2017. After that time, annual capital expenditures are anticipated
11 to drop quickly. During this three year period, SCE&G will not have the
12 option of waiting out unfavorable conditions in the capital markets or
13 postponing issues during periods where it has achieved unfavorable
14 financial or regulatory results as a company. During this time, it will be
15 vitally important that SCE&G maintain access to capital markets on
16 favorable terms. If SCE&G can maintain access on such terms, the
17 Company may be able to continue to reduce debt costs and the costs to
18 customers from financing the Units as compared to the 2008 projections.
19 However, if access to capital markets on favorable terms is lost, the reverse
20 is true. Financing costs will go up, and in some circumstances, it could
21 prove impossible to finance the completion of the Units.

1 **Q. WHAT ROLE DOES THIS PROCEEDING PLAY IN SCE&G**
2 **EXECUTING ITS FINANCIAL PLAN?**

3 A. Nothing is more important to SCE&G's financial plan than that we
4 sustain the market's understanding that ORS and the Commission will
5 continue to apply the BLRA in a fair and consistent way. The financial
6 markets understand that the Commission and ORS may come under
7 pressure to deviate from the terms of BLRA as challenges appear in the
8 construction project. The decision here will provide the financial markets
9 with an important signal concerning how the markets should expect that the
10 BLRA will be applied over the remaining five years of the project. That
11 will greatly impact how the financial community assesses the financial and
12 regulatory risks of the project and the rates and terms on which SCE&G
13 will be able to finance the approximately \$3.4 billion of debt and equity
14 that remains to be raised.

15 **Q. PLEASE EXPLAIN WHY YOU BELIEVE THAT THE BLRA IS SO**
16 **IMPORTANT TO THE FINANCING PLAN FOR THE UNITS.**

17 A. The BLRA was adopted to make it possible for electric utilities like
18 SCE&G to consider building new nuclear units. Before the BLRA was
19 adopted, building a new nuclear plant was not a viable option for SCE&G.
20 For SCE&G to seriously consider adding new nuclear capacity, legislative
21 action was needed to overcome two major challenges. These are the two
22 challenges which the BLRA sought to address:

1 **The Financing Challenge.** Recovering the financing costs of a
2 project during construction was the first challenge. During construction of a
3 base load plant, a company must raise hundreds of millions of dollars of
4 new capital each year to finance construction costs. Each time bonds are
5 issued to pay for construction, debt service increases. Unless there is a
6 corresponding increase in revenues, debt service coverage ratios decline as
7 **do other financial ratios. Bond ratings are based on these ratios. As these**
8 **ratios decline, the creditworthiness of the company suffers. In time, bond**
9 **ratings are downgraded.** At that point, raising capital on favorable terms
10 can be extremely difficult or potentially impossible. Capital to complete
11 the plant may not be available.

12 On the equity side, each time additional common stock is issued to
13 support construction, there are more shares outstanding. Additional
14 dividends must be paid. Without new revenues, earnings are diluted. As
15 earnings are diluted, the attractiveness of the stock and its value decline. To
16 finance the next round of construction, a higher number of lower-priced
17 shares must be issued to generate the same amount of capital. This causes
18 yet more dilution and further weakens the value of the stock going into the
19 next financing cycle.

20 The only solution is for the company to generate revenues sufficient
21 to pay debt service, meet coverage ratios and provide reasonable levels of
22 earnings per share as the new plant is built. Some years ago the

1 Commission recognized this fact and began to authorize utilities to include
2 the financing costs of plants in rates before they were completed. This was
3 done in general rate cases by recognizing the financing costs associated
4 with construction work in progress ("CWIP") as an expense for ratemaking
5 purposes. The Commission has historically allowed a company to apply its
6 weighted average cost of capital to its CWIP to determine the amount of
7 revenue needed to support the common stock and bonds issued to finance
8 construction. The weighted average cost of capital is the amount of
9 revenue that the Commission has determined to be necessary to support
10 investment of capital in the utility, specifically, to pay debt service on
11 bonds and allow a reasonable level of earning to support common stock.

12 But this CWIP based approach required the utility to file general rate
13 cases during plant construction. This produced rate adjustments that were
14 stair stepped in one or two-year intervals. SCE&G successfully used this
15 approach when building its last coal plant, Cope Station (1995), and its
16 most recent combined cycle natural gas plant, Jasper Station (2004). During
17 construction, there were a total of six separate rate adjustments which
18 placed some part of the financial costs of the capital spent on those plants
19 into rates.

20 Cope and Jasper, however, took three to five years to build, not
21 twelve as is the case for nuclear. Outlays for those plants were in the
22 hundreds of millions of dollars, not billions. If this approach were to be

1 used to support a nuclear construction project, it would require SCE&G to
 2 litigate full electric rate cases every year or two for approximately 12 years.
 3 Neither SCE&G nor its investors considered this to be practical.

4 **Disallowances.** The second challenge utilities like SCE&G faced in
 5 base load construction was the threat of construction cost disallowances.
 6 Investors are sensitive to very small changes in returns. Even 'minor'
 7 construction cost disallowances can hit investor returns with crippling
 8 force. For example, it takes only a five percent disallowance of principal in
 9 a given year—\$50 million on a \$1 billion investment—to cut a ten percent
 10 return in half. Even a small disallowance today indicates the potential for
 11 future disallowances as construction progresses. Therefore, even small
 12 disallowances can drive investors away and make it impossible for a utility
 13 to complete a construction project due to lack of financing.

14 These financial realities are facts that opponents of nuclear power
 15 used to great effect in the last nuclear construction cycle. They underscore
 16 why SCE&G believes that even a small departure from the terms of the
 17 BLRA could cause the investment community to fundamentally change its
 18 assessment of SCE&G's future regulatory risk.

19 **The BLRA.** In response, the South Carolina General Assembly
 20 adopted the BLRA. It allows for annual rate adjustments through revised
 21 rates filings to cover the financing costs of approved nuclear construction
 22 projects pending their completion. Financing costs are based on the same

1 weighted average cost of capital that applies under the CWIP method. As
2 with the CWIP method, before a plant goes into service, only financing
3 costs may be recovered under the BLRA, not the cost of the plant itself.
4 The BLRA carries forward the key concepts of the CWIP method but does
5 so without requiring full rate cases each year which would not be practical.

6 As to disallowances, the BLRA provides an opportunity for the
7 Commission to review the prudence of constructing the plant in detail
8 before construction begins. Once the prudence decision is made,
9 disallowances are permitted if (a) the construction does not proceed within
10 the originally approved cost and construction schedules and (b) schedule
11 amendments such as the updates that are requested here are not made. As
12 to the second point, the BLRA states that the Commission will grant
13 requests for amendment as long as "the evidence of record justifies a
14 finding that the changes are not the result of imprudence on the part of the
15 utility." S.C. Code Ann. § 58-33-270(E)(1).

16 Under the BLRA, prudence reviews are made based on plans and
17 forecasts before construction begins. The Commission determines whether
18 or not it is prudent to proceed with the project under the construction plan
19 and with the contractors and EPC contract proposed by the Company. The
20 initial plans and forecasts can then be updated so long as the updates are not
21 the result of imprudence by the utility. This assures the financial
22 community that disallowances based on after-the-fact prudence challenges

1 will not impair their ability to recover the capital they invest in the project
 2 unless there is imprudence by the utility in administering the project.

3 **Q. WHAT DO YOU BELIEVE TO BE THE POLICY BEHIND**
 4 **LIMITING THE PRUDENCY REVIEW IN UPDATE DOCKETS TO**
 5 **THE PRUDENCY OF THE OWNER IN MANAGING THE**
 6 **PROJECT?**

7 **A.** In considering disallowances, the BLRA properly focuses on the
 8 utility as owner of the project and those cases where the utility has caused
 9 additional cost to be incurred through imprudence in its role as owner.
 10 More specifically, in this project, the Commission properly looks to
 11 SCE&G as owner for prudence in

- 12 • construction oversight;
- 13 • obtaining licenses and permits for the Units including NRC
- 14 licenses, and complying with those licenses and permits;
- 15 • administering the EPC Contract and enforcing its terms;
- 16 • resolving disputes with the EPC contractors;
- 17 • constructing transmission facilities to support the Units;
- 18 • recruiting, hiring and training of operating staff for the Units;
- 19 • deploying information technology ("IT") systems to support the
- 20 Units;

- 1 • drafting and obtaining approval of the operating, maintenance
2 and safety plans for the Units; and
- 3 • performing all the tasks that fall under the heading of operational
4 readiness for the Units.

5 The BLRA provisions as to cost and construction schedule updates
6 properly focus on those aspects of the project that the Company can
7 control, specifically its own prudence as owner in administering the EPC
8 contract, overseeing the contractor's work and performing the work that is
9 the owner's direct responsibility. Other risks related to construction are
10 reviewed in the initial BLRA proceeding when the EPC contract, EPC
11 contractor, and other aspects of the project are being approved. The
12 decision to approve a project under the BLRA is a decision that it is
13 reasonable and prudent to assume the risks of proceeding given the terms of
14 the EPC contract, the review of the EPC contractor, and the other matters
15 considered.

16 **Q. IS THIS POSITION CONSISTENT WITH THE COMMISSION'S**
17 **PRIOR RULINGS UNDER THE BLRA?**

18 **A. In the 2008 proceedings, the Commission and the parties reviewed**
19 the risk factors associated with this project and concluded that the project
20 should proceed under the terms of the BLRA in spite of those risks. Based
21 on its review of that information, the Commission ruled as follows:

The Commission's approval of the reasonableness and prudence of the Company's decision to proceed with construction of the Units rests on a thorough record and detailed investigation of the information known to the Company and the parties at this time. Once an order is issued, the Base Load Review Act provides that the Company may adjust the approved construction schedule and schedules of capital cost if circumstances require, so long as the adjustments are not necessitated by the imprudence of the Company. S.C. Code Ann. § 58-27-270(E). The statute does not allow the Commission to shift risks back to the Company. ... In addition, risk shifting could jeopardize investors' willingness to provide capital for the project on reasonable terms which, in turn, could result in higher costs to customers.

Order No. 2009-104(A), p. 92. On appeal, the South Carolina Supreme Court described that order as "a very thorough and reasoned order." *Friends of Earth v. Pub. Serv. Comm'n of S. Carolina*, 387 S.C. 360, 372, 692 S.E.2d 910, 916 (2010). The court stated that "the Commission addressed each and every concern Appellant presented" *Id.*

Q. WHAT INFORMATION ABOUT RISKS DID SCE&G PLACE BEFORE THE COMMISSION IN 2008?

A. When SCE&G filed for BLRA approval in 2008, it placed before the Commission an extensive assessment of the risks and uncertainties of this project. SCE&G also placed before the Commission its choice of EPC contractors, its plan for construction of the Units, and the terms of the EPC Contract under which subcontractors would be selected and the Units would be constructed. SCE&G explained:

SCE&G has reviewed the risks related to constructing the Units carefully and over an extended period of time. It has compared those risks to the risks of the other alternatives that are available to meet

1 the energy needs of its customers and the State of South Carolina. . .
 2 . SCE&G has concluded that constructing the Units is the most
 3 prudent and responsible course it can take at this time to meet the
 4 base-load generation needs of its Customers. . . .

5
 6 ...In the end, this project's ability to meet its current schedule and
 7 cost projections will depend on the cumulative effect of those risk
 8 events that do occur on the schedule and cost projections contained
 9 in this Application.

10
 11 Petition, Docket No. 2008-196-E, Exhibit J, p. 12.

12 SCE&G's 2008 BLRA application acknowledged that, "[f]or a
 13 project of the scope and complexity of the licensing and constructing of the
 14 Units, any list of potential risk factors compiled at this stage of the process
 15 will not be exhaustive." Petition, Docket No. 2008-196-E, Exhibit J, p. 12.
 16 With that caveat, SCE&G listed the specific risks that seemed most
 17 important at the time. Among the risks specifically enumerated at that time
 18 were many, if not all, of the risks that have resulted in the current update
 19 filing.

- 20 • **Module production:** "It is possible that manufacturers of unique
 21 components (e.g., steam generators and pump assemblies or other
 22 large components or modules used in the Units) and
 23 manufacturers of other sensitive components may encounter
 24 problems with their manufacturing processes or in meeting
 25 quality control standards. . . . Any difficulties that these foundries
 26 or other facilities encounter in meeting fabrication schedules or

1 quality standards may cause schedule or price issues for the
2 Units."

- 3 • Construction Efficiencies: "The project schedule and costs are
4 based on efficiencies and economies anticipated from the use of
5 [standardized designed and advanced modular construction
6 processes]. . . . However, standardized design and advanced
7 modular construction has not been used to build a nuclear facility
8 in the United States to date. The construction process and
9 schedule is subject to the risk that the benefits from standardized
10 design and advanced modular construction may not prove as
11 great as anticipated."
- 12 • Rework: "[N]o AP1000 units have yet been built. Accordingly,
13 problems may arise during construction that are not anticipated at
14 this time. These problems may require repairs and rework to be
15 corrected. Repairs and rework pose schedule and cost risks
16 resulting both from the repairs and the rework itself, and from the
17 time and expense required to diagnose the cause of the problem,
18 and to plan, review and approve the work plan before
19 implementation."
- 20 • Scope Changes: "[S]cope increases can result from changes in
21 regulation, design changes, changes in the design and
22 characteristics of components of equipment, and other similar

1 factors. . . . Scope changes represent an important category of
2 risk to which the project is susceptible."

- 3 • **Design Finalization:** "[T]here is engineering work related to the
4 Units that will not be completed until after the COL [Combined
5 Operating License] is issued. Any engineering or design changes
6 that arise out of that work . . . could impact cost schedules or
7 construction schedules for the Units."

8 See Combined Application, Docket No. 2008-196-E, Exhibit J, p. 6-12.

9 In light of these risks, SCE&G expressly acknowledged in 2008 that
10 cost and schedule updates might be required. The Commission agreed that
11 under the BLRA these updates would be allowed so long as they were not
12 due to the imprudence of the utility.

13 **Q. WHAT DO THE OUTSTANDING COMMISSION ORDERS SAY**
14 **ABOUT THE EPC CONTRACT?**

15 **A.** In Order No. 2009-104(A), the Commission ruled that "[a] key
16 component of the prudency review envisioned by the Base Load Review
17 Act is a review of the reasonableness and prudence of the contract under
18 which the new units will be built." Order No. 2009-104(A) at p. 70. The
19 Commission pointed out that in the 2008 proceedings "[a] number of
20 intervenors have raised questions concerning the degree of price certainty
21 provided by the EPC Contract." *Id.* at p. 73. However, the Commission
22 noted that this issue has been addressed in the testimony of the Company's

1 witnesses who “testified that in the EPC Contract the Company sought to
2 obtain the greatest degree of price assurance possible, with due
3 consideration to the cost that [WEC/CB&I] would charge for accepting
4 additional price risk.” *Id.* The Commission concluded that “the EPC
5 Contract contains reasonable and prudent pricing provisions, as well as
6 reasonable assurances of price certainty for a project of this scope.” *Id.* at
7 74.

8 Mr. Byrne and I were involved in the negotiation of the EPC
9 contract, which took over two years after WEC/CB&I was selected as the
10 preferred vendor. During those negotiations, we gave serious consideration
11 to obtaining fixed or firm pricing for Craft Labor, Non-Labor Costs and
12 some or all of the potential scopes of work falling in the Time & Materials
13 (“T&M”) categories. The EAC cost adjustments presented for review in
14 this proceeding, apart from change orders, are all found in these categories.

15 As indicated in Order No.2009-104(A), we determined that the price
16 SCE&G and SCE&G customers would have paid for price certainty for
17 these items was prohibitive. In 2008, we did negotiate fixed or firm pricing
18 for more than 50% of the EPC Contract. Since that time, we have extended
19 price assurance to approximately two-thirds of the contract through
20 subsequent negotiations with WEC/CB&I. Our conclusion in 2008 was that
21 the premium to fix the prices for the remaining EPC cost categories was too

1 **high.** The Commission expressly approved that decision as reasonable and
2 prudent in Order No. 2009-104(A).

3 In spite of the increased costs we are considering today, the decision
4 to forego price certainty in 2008 was the correct decision. I have
5 participated in the EPC Contract negotiations and can affirm that the cost
6 increases we are facing today do not exceed the cost that would have been
7 paid for additional fixed price assurances under the EPC Contract.

8 **Q. SHOULD THE COMPANY POSTPONE UPDATES TO THE**
9 **SCHEDULES UNTIL ISSUES RELATED TO SCHEDULE AND**
10 **COST DISPUTES WITH THE CONTRACTORS ARE RESOLVED?**

11 **A.** No. It would not be prudent for the Company to defer updating its
12 cost and construction schedules until a later time:

13 1. We do not know when a more appropriate time would be. While we
14 would hope that our disputes with the contractors can be resolved by
15 negotiations, there is no timetable for those negotiations. If litigation
16 is required, the court proceedings in a matter this complex could last
17 five years or more. The final resolution might come well after the
18 project was completed.

19 2. The most important years for financing the Units will be 2015-2017.
20 Delaying a decision on these costs will inject significant uncertainty
21 in the financing plan at the exact wrong time.

1 3. If SCE&G foregoes adjusting its cost and construction schedules, it
2 foregoes including these costs in revised rates filings. Without
3 revised rates, SCE&G loses revenue that is required to support the
4 debt the Company plans to issue in the coming years and to support
5 common stock. Our financial plan for completing these Units is
6 based on regular, annual revised rates filings. Without the revenue
7 from revised rates, our debt service ratios, and other financial ratios
8 begin to erode immediately resulting in a financial plan that rapidly
9 becomes unworkable.

10 4. The financial community expects us to update our schedules and
11 proceed with revised rates as we have every year since 2009. If we
12 are not able to proceed consistently with past practice and current
13 expectations, the financial community will swiftly reassess its
14 support for this project and the confidence it has in the Company's
15 financial plan. This is the most important point of all. The
16 consequences of the Company not proceeding with updates and
17 revised rates filings as the BLRA envisions could result in an
18 immediate withdrawal of financial support for this project.

19 5. Not to proceed with this filing would also be contrary to our long-
20 standing commitment to this Commission and the public to come
21 forward publically for approval of changes in our cost and
22 construction schedules as we identify them.

1 Without approval of the cost and construction schedules proposed here, the
2 Company's ability to finance the completion of the Units on reasonable
3 financial terms may be placed in great jeopardy.

4 **Q. IF THESE DISPUTES ARE UNRESOLVED, HOW CAN COST AND**
5 **CONSTRUCTION SCHEDULE UPDATES BE APPROVED?**

6 **A.** The cost and construction schedules presented for approval here are
7 no different from those approved in 2008 and in each update docket
8 thereafter. In each case, the Company came before the Commission with
9 the best information available concerning the anticipated construction
10 schedule for completing the Units and the anticipated costs associated with
11 that schedule. In every case, both the cost and the construction schedules
12 presented and approved have been anticipated schedules for completing the
13 Units. As anticipated schedules they are subject to risks, uncertainties,
14 potential changes and possible revisions. That is true of the cost schedule
15 here just as it has been true of all cost schedules the Commission has
16 approved to date.

17 The current schedules reflect the best information available about the
18 anticipated costs and construction timetables for completing the project.
19 The anticipated capital costs presented here are not speculative. As Mr.
20 Byrne testifies, they are based on a careful review of construction plans and
21 the costs of the tasks required to complete them. No speculative or un-
22 itemized costs are included in this cost schedule. There is no question that

1 these costs on this schedule will be paid. The only question is whether
2 SCE&G can recover some of these costs from WEC/CB&I. It is appropriate
3 that this cost schedule be approved under the BLRA as the updated
4 schedule for the project.

5 **Q. SHOULD WE WAIT FOR CHANGE ORDERS?**

6 **A.**No. A change order is not needed to properly consider these updates.
7 The Construction Labor, and Non-Labor Costs, which constitute the Target
8 Cost categories under the EPC Contract, are not fixed or firm. T&M costs
9 are also not fixed or firm. Change orders to the EPC Contract are not
10 required for WEC/CB&I to bill SCE&G for amounts above the target or
11 estimated levels.

12 **Q. HOW WILL REGULATORS ENSURE THAT IMPROPER**
13 **CHARGES ARE NOT INCLUDED IN REVISED RATES?**

14 **A.**As is always the case under the BLRA, revised rates are based on
15 actual payments only, not projections. They never reflect costs that have
16 not been paid. In all cases when SCE&G files for revised rates, the
17 Company presents ORS with the actual invoices and other cost data
18 establishing the project costs that have been paid to date and information
19 justifying those costs. ORS has full audit authority over this data. ORS
20 carefully audits all amounts SCE&G seeks to include in revised rates
21 recovery.

1 SCE&G has no interest in including any improper amounts in
2 revised rates recovery. If anything improper is found in these amounts
3 through ORS's audits or otherwise, we will thank the party that points that
4 out and remove those amounts from revised rates filings immediately. If
5 those amounts were improperly invoiced to us by WEC/CB&I, we will take
6 appropriate action with WEC/CB&I to have their invoices corrected and
7 proper credits applied.

8 **Q. HAS SCE&G APPROVED THESE UPDATED SCHEDULES?**

9 A. SCE&G has "approved" the updated schedules in the sense that it
10 recognizes them to be the most accurate and dependable statements
11 available of the anticipated construction schedule for completing the Units
12 and the anticipated schedule of capital costs for completing the Units. As a
13 practical matter, these schedules are in fact the schedules under which work
14 on the project is proceeding. Insofar as they reflect data from WEC/CB&I,
15 that data has been endorsed by WEC/CB&I as contractor under the EPC
16 Contract. SCE&G has carefully reviewed the data provided by WEC/CB&I
17 and verified its reasonableness. SCE&G has also provided certain data of
18 its own that is included in the cost schedule, specifically data as to Owner's
19 cost and payments it intends to withhold from WEC/CB&I. SCE&G stands
20 behind its data completely.

21 For these reasons, SCE&G has determined that the anticipated cost
22 schedule presented by Ms. Walker (Exhibit No. ____ (CLW-1)) and the

1 anticipated construction schedule presented by Mr. Byrne (Exhibit No. __
 2 (SAB-2)) are reasonable and prudent basis on which the Commission may
 3 update the approved BLRA schedules for this project. The schedules
 4 presented here in every way meet the definition of the anticipated
 5 construction schedule and the anticipated capital cost schedule for the
 6 project. They are appropriate schedules for the Company to bring forward
 7 to the Commission for review and approval under BLRA. In that regard
 8 SCE&G has approved these schedules for filing as updated project
 9 schedules ~~as the~~ ^{for} BLRA purposes.

10 However, for purposes of the EPC Contract, we are concerned that
 11 WEC/CB&I may seek to take the term "approved" as applied to these
 12 schedules to mean that SCE&G has approved substituting these schedules
 13 for the schedules previously approved in the EPC Contract, thereby
 14 excusing WEC/CB&I from contractual obligations, penalties, claims and
 15 possible damages from failing to meet those schedules. SCE&G has not
 16 approved those schedules in that sense whatsoever. In its role as Owner of
 17 the project, SCE&G intends to maintain all claims and exert all possible
 18 leverage over WEC/CB&I related to its obligations under the EPC
 19 Contract.

20 **Q. WHAT IS YOUR CONCLUSION AS TO THE VALUE THAT NEW**
 21 **NUCLEAR GENERATION BRINGS TO YOUR CUSTOMERS AND**
 22 **TO THE STATE OF SOUTH CAROLINA?**

1 **A.** SCE&G continues to pursue the generation plan that it presented to
2 this Commission in 2008. That strategy remains fundamentally sound.
3 When SCE&G came before the Commission in 2008, we presented a
4 detailed overview of the risks and challenges of building a nuclear plant.
5 We showed then that the benefits to our customers from new nuclear
6 capacity far outweighed these risks and challenges.

7 We are now seven years into a twelve year construction project. As
8 Mr. Byrne testifies, the project team has overcome many of the one-of-a-
9 kind challenges presented by this project. The financial information I have
10 provided shows that the impact of lower inflation, lower debt costs and
11 increased production tax credits will offset the impact of capital cost
12 increases. Because of these off-sets, the costs of the project to customers is
13 no greater today that it was in 2008 when SCE&G first came to the
14 Commission for its approval.

15 Furthermore, the environmental imperatives of reducing CO₂
16 emissions are greater than ever. The risks of building a system with an
17 imbalanced reliance on fossil fuels for dispatchable base load capacity is
18 certainly no less than it was in 2008.

19 As Dr. Lynch testifies, the Company has updated its modeling of the
20 cost of completing the Units compared to other alternatives. That modeling
21 demonstrates that even with today's low natural gas prices –which I believe
22 are not sustainable over the long run—completing the Units remains the

1 lowest cost alternative for meeting the pressing need of SCE&G's
2 customers for base load generating capacity. The financial benefits of
3 completing the Units are clear even when the risk of future natural gas
4 volatility is ignored.

5 In light of these facts, we believe that the logical and prudent choice
6 is to proceed with the construction plan and apply the BLRA as written.
7 The BLRA is the basis on which the project has been successfully financed
8 to date. It will be the basis for all future financings. The BLRA is the basis
9 on which SCE&G maintains the creditworthiness necessary to continue this
10 project. Deviating from the consistent application of the BLRA would put
11 the financial plan for completing the Units at grave risk. That could
12 increase the costs of the project to customers dramatically and could well
13 result in the financial community denying SCE&G access to capital on
14 reasonable terms. That could make completing the Units financially
15 impossible which would be a great loss to our customers, to our partner
16 Santee Cooper, and to our state.

17 My senior management team and I are directly involved in the
18 management and oversight of the project and in interacting with
19 WEC/CB&I and its senior leadership team. We are dealing with the issues
20 with WEC/CB&I aggressively and at the highest levels. The challenges we
21 are facing are consistent with the risk we identified in our filings in 2008.

1 The important point is that these challenges do not in any way outweigh the
2 long-term benefits of adding this new nuclear capacity to our system

3 The construction phase we are in today is temporary. If we stay the
4 course with construction and with regulation, the Units will be built and
5 will provide reliable, non-emitting base load power to our customers for 60
6 years or more. It is my opinion based on thirty-eight years' experience in
7 this industry that the value of the new nuclear capacity under construction
8 today remains much greater than any challenges we have encountered or
9 are likely to encounter during construction of the project.

10 **Q. WHAT ARE YOU ASKING THE COMMISSION TO DO?**

11 **A.** SCE&G is asking the Commission to approve the updated cost
12 forecast and construction schedule for the Units as presented in the Petition
13 in this matter and in the testimony of Mr. Byrne, Mr. Jones, and Ms.
14 Walker. SCE&G requests that the Commission find that the changes in
15 cost and construction schedules are the result of risks that have long been
16 identified as pertaining to a project of this size and complexity. Moreover,
17 SCE&G requests the Commission to find that SCE&G's management and
18 development of the project continues to be reasonable and prudent in all
19 respects.

20 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

21 **A.** Yes. It does.

1 MR. BURGESS: Madam Chairman, Mr. Marsh is
2 available for cross-examination by Mr. Guild and
3 questions from Commissioners, if any.

4 CHAIRMAN HALL: All right. We'll take a short
5 break before we begin. Five minutes.

6 [WHEREUPON, a recess was taken from 11:35
7 to 11:50 a.m.]

8 CHAIRMAN HALL: Thank you. Be seated.

9 Mr. Guild, if you will go over to that mic,
10 and never leave that mic, please.

11 [Laughter]

12 CROSS EXAMINATION

13 BY MR. GUILD:

14 Q Good morning, Mr. Marsh.

15 A Good morning.

16 Q I'd like to confirm some numbers for you as we try to
17 examine the Application you have before us. The company
18 has just recently filed for a Base Load Review Act
19 annual increase based on the capital costs of the
20 proposed plants; is that right?

21 A It's based on the revised schedule we received from the
22 consortium, that's correct.

23 Q Okay. And I have an Exhibit G to that Application
24 that's identified as a red-lined amended Exhibit G--
25 corrects a couple of errors, I think. I just wanted

1 you, if I could get you to confirm, subject to check,
2 the figures that appear on that sheet that I've been
3 relying on. First, there's a line that's entitled
4 "Incremental Revenue Requirements-BLRA," and are those
5 the incremental requirements that are associated with
6 financing the Units 2 and 3?

7 MR. BURGESS: Madam Chairman, would Mr. Guild
8 be so kind as to show Mr. Marsh what he's reading
9 from?

10 MR. GUILD: I just have one copy, but if
11 perhaps counsel has available the document, they
12 could share with him. I'd be happy to show it to
13 him; it just has my handwriting on it, my
14 scratching.

15 CHAIRMAN HALL: Can you tell us what document
16 you're referring to?

17 MR. GUILD: Yes. It's Exhibit G to the
18 pending rate increase request by SCE&G. It's their
19 pending request.

20 BY MR. GUILD:

21 Q You filed one in June, did you not, Mr. Marsh?

22 A I believe that's correct. I'll get a copy of it from
23 the attorneys.

24 Q Perhaps I could just ask –

25 MR. BURGESS: You don't have a copy, Mr.

1 Guild, to show him?

2 MR. GUILD: I have just one copy.

3 MR. BURGESS: Okay.

4 VOICE: It's your document.

5 MR. BURGESS: I think you have to show your
6 copy to the witness.

7 CHAIRMAN HALL: Okay. Mr. Guild, we're going
8 to get a copy of that, so that he can review it, as
9 well. You don't have a clean copy, Mr. Guild?

10 MR. GUILD: No, ma'am, I do not. I assumed
11 the company would know about their own exhibits.

12 CHAIRMAN HALL: Mr. Zeigler, have you found a
13 copy?

14 MR. ZEIGLER: [Indicating.]

15 WITNESS: [Indicating.] I've got a copy of
16 the exhibit. We are ready.

17 CHAIRMAN HALL: Thank you.

18 BY MR. GUILD:

19 Q Mr. Marsh, you have that before you?

20 A Yes, I do.

21 Q And make sure you have the amended red-lined version.
22 Do you have that one, sir?

23 A Mine says, "Amended Exhibit G."

24 Q That's right. "Red-Lined version" under that?

25 A I don't see "red-lined version."

1 MR. BURGESS: I think his version is a clean
2 version that he has there.

3 MR. GUILD: Well, let's just see—

4 MR. BURGESS: There is a clean version and a
5 red-line version. I think Mr. Guild is reading
6 from the red-line version. We have a copy of the
7 clean version. If you would prefer that he read
8 from a red-line version, we'll try to find a red-
9 line version.

10 MR. GUILD: It's just the copy I have, Mr.
11 Burgess.

12 BY MR. GUILD:

13 Q But let me just see if I can get you to confirm the
14 numbers. If they're different, just tell me, please.

15 A That's fine..

16 Q But, again, there's a horizontal line that reads
17 "Incremental Revenue Requirements BLRA." You see that?
18 Left-hand column?

19 A Yes, I do.

20 Q All right. And it has a series of entries by year,
21 running across from left to right, on the page, correct?

22 A That is correct.

23 Q Does that indeed represent the annual increase
24 associated with financing Units 2 and 3 under the BLRA?

25 A It would represent through 2014 the revenue requirement

1 that I believe we've already applied under the Base Load
2 Review Act, and from '15 forward I believe those numbers
3 would represent the estimated amounts of revenue
4 increase that will be required, based on the information
5 we provided in this docket to the Commission.

6 Q Indeed, that's what I'm driving at, all right? So, just
7 subject to check-- and if you have the document, confirm
8 these numbers appear-- for 2015, and that's the pending
9 application, you show an incremental BLRA revenue
10 requirement of \$70 million, correct?

11 A That is correct.

12 Q All right. And 2016, \$135 million?

13 A That's correct.

14 Q 2017, \$111 million?

15 A That's--

16 MR. BURGESS: Madam --

17 WITNESS: --correct.

18 MR. BURGESS: --Chair, if I may. I'm not
19 really sure where Mr. Guild is going with this.
20 He's referring to an Application in another docket
21 that's not germane to this proceeding. We would
22 object to this line of questioning on the ground
23 it's irrelevant.

24 MR. GUILD: Madam Chair, it seems to me that
25 the --

1 VOICE: If he can -

2 MR. GUILD: - BLRA revenue -

3 VOICE: - stand up, I can stand up.

4 CHAIRMAN HALL: I'm sorry.

5 VOICE: I want to -

6 CHAIRMAN HALL: No, ma'am, you cannot stand
7 up. You will sit down and behave with some
8 decorum. The only parties- only parties will
9 address the Commission.

10 Go ahead, Mr. Guild.

11 MR. GUILD: Madam Chair, the revenue
12 requirements anticipated to complete the plant
13 couldn't be any more relevant. This is a document
14 from the company. It represents an admission by
15 the company. I can't imagine that the Commission
16 wouldn't be interested in hearing what the expected
17 total revenue- incremental revenue requirements
18 are going to be, associated with these cost
19 overruns and project delays. That's precisely what
20 I'm driving at.

21 CHAIRMAN HALL: All right. Mr. Burgess's
22 objection is sustained, Mr. Guild, so move on,
23 please.

24 BY MR. GUILD:

25 Q Would you accept, subject to check, that the total

1 incremental revenue requirements through the in-service
2 dates of 2020 amount to \$677 million under the Base Load
3 Review Act, as you project them?

4 A Not just as a number added up, because those numbers
5 represent potential future increases. Those are derived
6 based on the estimates we have in the calculation we
7 provided the Commission in this case on the revised and
8 updated schedule. As we have provided in our testimony,
9 a significant portion of those dollars are still under
10 dispute and we continue to pursue that dispute with the
11 consortium. So these are estimates for BLRA purposes;
12 they would not represent the actual dollars that would
13 be filed. The only thing that could be filed with the
14 Commission are actual dollars that are spent when they
15 are actually spent. These are future dollars and, so,
16 until they're actually expended by the company, they
17 would not be included in a rate proceeding.

18 Q Would you accept, subject to check, that my math is
19 correct, \$677 million, and, with that explanation, is
20 the total future revenue requirement, 2015 through 2020?

21 A Yes.

22 MR. GUILD: Madam Chair, I ask that this be
23 marked as an exhibit and travel with the record as
24 an offer of proof, please.

25 CHAIRMAN HALL: It will be Hearing Exhibit

1 No. 3.

2 [WHEREUPON, Hearing Exhibit No. 3 was
3 marked for identification.]

4 MR. BURGESS: Madam Chairman, may I see that?

5 CHAIRMAN HALL: Go ahead, Mr. Burgess.

6 MR. BURGESS: [Indicating.] Madam Chairman, I
7 would object to the handwriting on this document.
8 I'm not sure whose handwriting that is. It's
9 certainly no witness of ours. So, if Mr. Guild
10 wants to include this in the record, he certainly
11 has that right to do so, but I would object to the
12 writing that's on here.

13 CHAIRMAN HALL: Mr. Guild, do you have a clean
14 copy?

15 MR. GUILD: I don't. It's my copy. I submit
16 it's my handwriting. You sustained an objection to
17 my questioning. I submit that I should be able to
18 ask those questions. I'd like the company's own
19 document, from which I was questioning, marked as
20 an offer of proof to travel with the record. I
21 believe, under the Rules of Evidence, I'm entitled
22 to have it marked as an offer of proof, whether it
23 has my handwriting or not, whether Mr. Burgess
24 likes my handwriting or not. I simply ask that the
25 record contain a document from which you did not

1 allow me to examine the witness. Thank you.

2 CHAIRMAN HALL: Well, certain things, Mr.
3 Guild. Number one, we prefer a clean copy. I
4 mean, I don't know if you want your work product
5 involved or included in the record -

6 MR. GUILD: I have no problem with that, Madam
7 Chair. You can have my handwriting. I just want
8 to have the record clear that the Commission would
9 not allow this line of questioning, and that is an
10 offer of proof to support any evidentiary
11 objections that I might want to preserve for
12 appeal. So, I'd ask that it be marked in the form
13 in which -

14 CHAIRMAN HALL: In which -

15 MR. GUILD: - I was using it.

16 CHAIRMAN HALL: - case, a clean copy would
17 suffice.

18 MR. GUILD: Ma'am?

19 CHAIRMAN HALL: I mean, a clean copy would
20 suffice, would you agree?

21 MR. GUILD: I can't under- - I can't hear you.

22 CHAIRMAN HALL: A clean copy. Would you not
23 agree a clean copy would suffice?

24 MR. GUILD: Would suffice?

25 CHAIRMAN HALL: As an offer of proof?

1 MR. GUILD: If I wanted to make it an offer of
2 proof. But I want that document made an offer of
3 proof, Madam Chair. It's the document that I was
4 questioning from, so I would like to have that one
5 marked as an offer of proof. If the Chair would
6 like to include a clean copy, as well, I certainly
7 have no objection to that. My only point is I'm
8 trying to examine the witness from the company's
9 own document. You wouldn't let me do it. I'd like
10 it made an offer of proof.

11 CHAIRMAN HALL: We've already sustained that
12 objection.

13 MR. GUILD: What objection is that, Madam
14 Chair?

15 CHAIRMAN HALL: About not going down that line
16 of questioning. So I'm- we'll include the clean
17 copy. We'll include a clean copy that you provide.

18 MR. GUILD: Madam Chair, I'd like the copy
19 with my notes on it included as an offer of proof.

20 CHAIRMAN HALL: Okay.

21 MR. GUILD: If the Chair would like a clean
22 copy included, as well, as a Commission exhibit -

23 CHAIRMAN HALL: No -

24 MR. GUILD: -of course, I have no objection.

25 CHAIRMAN HALL: The clear copy will be Hearing

Exhibit No. 3, no handwriting.

MR. GUILD: Madam Chair, I don't know how to preserve an objection if you won't allow me to put an offer of proof in, so, if the record would just reflect the fact that I would like my document in, regardless of whether it has handwriting on it, as an offer of proof, I would appreciate it.

CHAIRMAN HALL: Okay. Well, that's certainly included in the record, and a clean copy will be Hearing Exhibit No. 3.

[See Vol 3, Pg 398]

BY MR. GUILD:

Q Mr. Marsh, let's talk about the estimates of delay. Would you accept that the company now proposes 38 months and 18 days' additional delay in the completion of construction for Unit 2, as compared to the initial proposed substantial completion date approved by the Commission in the initial Base Load Application?

A Yes, the original date for the new Unit 2 was 2016. We have been back to the Commission with updates to that schedule that currently had it, I believe, before this hearing, as being due in 2017.

Q Thirty-eight months, 18 days?

A I'll take your math, subject to check.

Q You need to get a little closer to the mic. I'm having

1 a hard time with the speakers.

2 CHAIRMAN HALL: I'm sorry, Mr. Marsh. Yeah,
3 again, we can't hear you.

4 WITNESS: [Indicating.] Can you hear me now?
5 I can't get much closer.

6 [Laughter]

7 CHAIRMAN HALL: Yeah. I'm sorry.

8 BY MR. GUILD:

9 Q All right. And at the time the Commission approved the
10 initial Base Load Order in March 2009, Order 2009-
11 104(A)), there were 85 months until the initial
12 substantial completion date for Unit 2. Would you
13 accept that?

14 A Subject to check.

15 Q Okay. So the 38-month delay-- and 18 days-- that you
16 propose now, represents a 45 percent extension of that
17 initial substantial completion of the construction
18 schedule, correct?

19 A I've not done the math. It's a simple calculation, so
20 subject to check.

21 Q Subject to check. I believe you stated that you
22 estimate that the additional cost to complete represents
23 a 15.8 percent increase over the initial capital costs
24 approved in the initial BLRA Application, correct?

25 A I believe I said 15 percent in my testimony.

1 Q All right, I'll accept that. Now, SCE&G already
2 proposes to sell an additional 5 percent of both units
3 to Santee Cooper, do they not?

4 A No, that's not correct.

5 Q What's the planned relationship with Santee Cooper in
6 terms of proportional ownership of the units expected to
7 be after in-service?

8 A Santee Cooper approached us with a discussion about
9 selling part of their ownership. They currently own 45
10 percent of the new units. And after discussions with
11 Santee, we entered into an agreement with Santee—
12 subject to this Commission's approval—that we would
13 purchase an additional 5 percent of Unit 1 – Unit 2, the
14 first new unit, when it came on-line. That purchase
15 would take place over a two-year period.

16 Q I see. So, not both units, just Unit 2?

17 A Just Unit 1.

18 Q I'm sorry, Unit 2?

19 A The new unit, which is Unit 2.

20 Q But not Unit 3?

21 A That's correct.

22 Q Okay. So with the addition, then, of an additional
23 fractional ownership by SCE&G, what impact would that
24 have on SCE&G's share of the capital costs to complete
25 the units?

1 A It has no change on the capital costs we presented here.
2 These capital costs in this filing represent only our 55
3 percent share. We have not approached the Commission
4 about the additional 5 percent, so there's nothing
5 reflected in these numbers for the additional 5 percent,
6 if we move forward with that.

7 Q Right, I get that. But if you know already that you're
8 going to sell ^[sic] 5 percent at least of one unit to
9 SCE&G's co-owner, Santee Cooper, then South Carolina
10 ratepayers are going to bear a proportional increased
11 share of the cost of completing the plant, won't they?

12 A We're not going to sell any of our interest to Santee
13 Cooper.

14 Q No, Santee Cooper is going to sell it to you.

15 A That's correct. I'm just correcting what you said.

16 Q And so, we, collectively, are going to own more of the
17 units than we would before you sell that fraction -
18 before you buy that fraction from Santee Cooper,
19 correct?

20 A Subject to this Commission's approval.

21 Q Right. So how much additional cost will South Carolina
22 Electric & Gas Company ratepayers bear of the cost of
23 the two units after that proposed acquisition is
24 complete?

25 A The purchase is intended to take place at Santee

1 Cooper's book cost. Those numbers are being negotiated
2 now, but it will be slightly different from SCE&G's
3 numbers because their accounting is a little bit
4 different. They follow different procedures than we do,
5 as a governmental entity. It would be at their book
6 cost.

7 MR. GUILD: Madam Chair, I just apologize but
8 I'm having a hard time hearing the witness. I
9 think it's the sound system in some way. It's just
10 a little garbled and I apologize for pressing him,
11 but I just don't understand some of his answers.
12 I'm sure Mr. Marsh is speaking clearly enough; it's
13 just the system.

14 WITNESS: Let me try it again. Is that
15 better? The 5 percent we would propose to purchase
16 from Santee Cooper, when the first new unit comes
17 on-line, would be at Santee Cooper's cost. That
18 cost would be a little bit different from ours
19 because they follow different accounting policies
20 than we do, because they're a governmental entity.
21 But the intent is to purchase that 5 percent at
22 their cost, subject to this Commission's approval,
23 and the payments for that and the related
24 megawatts, the output, would transfer to SCE&G over
25 a two-year period.

1 BY MR. GUILD:

2 Q All right, understood. So the question that I had for
3 you, that I don't think you responded to, is, what
4 additional costs do you expect South Carolina Electric &
5 Gas ratepayers to bear, of the cost of the total
6 project, after that contemplated acquisition from Santee
7 Cooper is complete?

8 A If you make the assumption that the Commission approves
9 the transfer, then we would assume an additional 5
10 percent in cost of the total project, based on Santee
11 Cooper's share of the cost.

12 Q Of Unit 2?

13 A Of Unit 2.

14 Q Not Unit 3?

15 A Not Unit 3.

16 Q Understood. Thank you. Now, you propose a settlement
17 to the Commission involving an agreed reduction on the
18 return-on-equity component under the BLRA, from 11
19 percent to 10.5 percent, correct?

20 A That was part of the settlement agreement.

21 Q [Indicating.]

22 A That was part of the settlement agreement, that's
23 correct.

24 Q Now, can you confirm DRS's estimate that that has an
25 approximate \$15 million total-project-lifetime revenue

1 effect for ratepayers?

2 A That is correct.

3 Q Now, you follow— apparently, as you said in your
4 testimony — the ratings and commentary by the financial
5 community on the effects of this project on the
6 company's finances?

7 A Yes, I do.

8 Q You're familiar with Moody's Investors Services, their
9 commentary on the company?

10 A They do have commentary from time to time, yes.

11 Q You familiar with the piece that they offered that
12 compared the effects of the nuclear project by SCE&G on
13 the other AP1000 under construction, the Vogtle project
14 being built by Georgia Power?

15 A I don't recall that particular piece. I may have read
16 it. I see a lot of information from Wall Street. I
17 don't recall that particular piece at this time.

18 Q They characterized the project for you as a transforming
19 event for SCE&G. You agree with that?

20 A I don't know how they used that "transforming," you
21 know, word, in context. To me, it's a transforming
22 aspect of what we'll be able to provide to the State of
23 South Carolina with the clean energy that will come from
24 the project over 60 years. I think that will transform
25 what South Carolina is able to do by providing clean,

1 non-emitting, reliable power to its customers.

2 Q Here's what they said that meant-

3 MR. BURGESS: Objection. That's hearsay.

4 CHAIRMAN HALL: Sustained.

5 MR. GUILD: Madam Chair, I'm not testifying;
6 this is cross-examination. I believe I'm entitled
7 to put a question to the witness. I'm not offering
8 evidence; I'm asking the question, and I can quote
9 from anything I want to, I thought, under the Rules
10 of Evidence, Madam.

11 MR. BURGESS: Madam Chairman, if I may, Mr.
12 Marsh indicated he was not familiar with that
13 particular writing Mr. Guild's referring to.

14 MR. GUILD: Whether or not, Madam Chair- this
15 is open cross-examination in South Carolina, and I
16 have never been restrained in a court of law from
17 asking a question based on any supposition. I am
18 proposing to him a premise. He doesn't have to
19 agree with it. He can think I'm making it up, for
20 that matter. But the fact remains, I'm entitled to
21 frame a question under the Rules of Evidence.

22 CHAIRMAN HALL: Okay. Finish your question,
23 Mr. Guild.

24 BY MR. GUILD:

25 Q Transforming event for SCE&G. Would you accept that

1 adding these units alters SCE&G's nuclear generation
2 dispatch from 24 to 80 percent?

3 A I've got that information. Just bear with me for a
4 minute [indicating]. From a dispatch perspective, in
5 2014, the dispatch for nuclear is around 19 percent; in
6 2021, when both units are expected to be on-line, it
7 would go to 56 percent.

8 Q All right. Would you accept, subject to check, that
9 Georgia Power, which is building Vogtle, will go from
10 only 23 percent nuclear generation dispatch to 30
11 percent, adding the two Vogtle units?

12 A I don't know about their generation mix.

13 Q Would you accept that the nuclear units will represent
14 26 percent of your total capacity once they're on-line?

15 A I have 32 percent, including our current unit.

16 Q Georgia Power/Southern Company, the Vogtle unit is only
17 2 percent of their total generation. You accept that?

18 A That sounds very low, but I don't have the details of
19 their generation mix.

20 Q SCE&G proposes to— is expected to seek annual rate
21 hikes under the Base Load Review Act that approximate 3
22 percent per year, to finance the Summer units. Would
23 you accept that?

24 A I think the average has been about 2.3, 2.4.

25 Q But in Georgia, it's only 1 percent to finance Vogtle.

1 Would you accept that?

2 A I don't have the details of their financing plan or
3 their generation mix, so I just can't verify those
4 numbers.

5 Q March 16, 2015, Moody's says, quote, "SCE&G and SCE&G
6 are completely exposed to and dependent on the BLRA,"
7 said Susana Vivares, vice president/senior analyst."
8 Are you familiar with that comment by Moody's?

9 A I've had a number of conversations with Moody's about
10 the impact of the Base Load Review Act and the
11 importance of its application in the building of our
12 units. That comment would not surprise me. When we
13 came to the Commission in 2008 and put the idea in front
14 of the Commission of building these new plants because
15 we felt like they were the best opportunity for us to
16 serve the base-load needs of our customers for years to
17 come, we produced that – we filed that case under the
18 Base Load Review Act.

19 I was here in the '70s and the '80s when nuclear
20 plants were built initially; there were a number of
21 challenges that were met by utilities. One of those was
22 the compounding of interest rates on top of expenditures
23 while the plants were being built, before they came on-
24 line. We felt like, under the Base Load Review Act – or
25 we knew under the Act, if we were able to recover the

1 financing costs of the plants on a current basis, that
2 would save us approximately \$1 billion in financing
3 costs, which in turn would save the customers \$4 billion
4 over the life of the plant.

5 So I've told this Commission before, without that
6 Base Load Review Act, I don't know that we would have
7 proceeded with construction, because that's the
8 construct under which the plants are financed; that is
9 the way we presented the plants to the financial
10 community. They understand how that works. They
11 understand the benefits of building the plants that way.
12 We had done that on several smaller projects prior to
13 bringing the new nuclear project to the Commission. The
14 BLRA just really codified the existing procedures that
15 minimize the need for extended rate cases during the
16 process, as long as the company was proceeding in
17 accordance with its schedule or updates to that schedule
18 it presented and were approved at the Commission.

19 So for Moody's or any other investor on Wall Street
20 to say they find a very close link between our project
21 and the Base Load Review Act is really no surprise. I
22 would expect them to say that, because the two are very
23 closely tied hand-in-hand and one of the foundational
24 reasons we're able to build this project on favorable
25 financing terms from Wall Street.

1 Q Does that complete your answer?

2 A Yes, it does.

3 Q "The utility has exhausted its financial cushion, is
4 overbudget, and still years away from commercial
5 operation. We," Moody's, "think the risk that South
6 Carolina's electric consumers become less willing to
7 absorb these cost increases is going to rise. In turn,
8 the filing will...turn up the heat on...regulators."
9 You familiar with that comment by Moody's?

10 A I have not read that comment.

11 Q Do you dispute the notion that you've exhausted your
12 financial cushion?

13 A I'm not sure exactly what they are referring to in terms
14 of the financial cushion. We don't have money on
15 reserve on Wall Street. Every time we go to Wall Street
16 to raise funds, whether it's to sell equity or sell
17 bonds, each issuance stands on its own. They may be
18 talking about the original contingency that was put in
19 place in the initial Base Load Review order, that we
20 discussed with this Commission at length in several
21 proceedings. That may be what they were referring to.

22 Q You certainly don't dispute the notion that you're
23 overbudget and still years away from commercial
24 operation, do you?

25 A I don't agree with the term "overbudget." When we

1 brought this project to the Commission in 2008, we
2 talked about the way we laid out the contract with the
3 consortium at the time between Westinghouse and Shaw,
4 and there were three major components. One of those is
5 a firm category- one was firm, one was firm with fixed
6 escalation, and the third was a final bucket of targeted
7 dollars, which essentially were dollars that were at
8 risk because to fix those amounts would have been
9 excessively expensive to the company and for our
10 customers, and those costs will be paid by SCE&G and
11 Santee Cooper at their actual rates. The majority of
12 that is labor and costs related to labor.

13 As we've gone through the project, we've made
14 estimates of the work that needs to be done. Some of
15 those estimates have been challenged by the company,
16 which we included- details about that is included in
17 this filing. So the fact that those target dollars have
18 gone up, in my mind, doesn't mean we're overbudget; that
19 means we've refined those costs. And as we have refined
20 those, we've come back to the Commission and explained
21 those in every case we've been before the Commission for
22 approval.

23 Q I guess I just don't understand what the concept of
24 "budget," then, is. If budget is what the Commission
25 relied on when they gave you your initial BLRA approval,

1 then what do you have in front of them right now that's
2 \$698 million on top of that initial proposal? Which is
3 the budget?

4 A We've provided projections to the Commission of the
5 costs, based on the best information available at the
6 time. We told the Commission those dollars would be
7 subject to change as additional information was
8 available. There were certain risks that may arise on
9 the project. We've had a number of those risks that
10 have identified themselves. We've addressed those.
11 There have been costs associated with those and we've
12 been back to the Commission to raise our estimates, as
13 appropriate.

14 Q So, in effect, the Commission accepted your initial Base
15 Load Review with those risks in mind, and we made you
16 build nuclear plants. We put a gun to your head to
17 build these nuclear plants at whatever cost they were
18 going to amount to, because there is no budget. Is that
19 your testimony?

20 A That's not my testimony, and I want to make it clear on
21 the record that no one from the Commission has put a gun
22 to my head and asked me to do anything. We simply put
23 our proposal to build the nuclear plants before the
24 Commission. We believed then, and we believe now, that
25 that was a good-faith estimate of what we expected the

1 costs to be. We have updated that, as appropriate. And
2 I would offer the Commission that the costs we presented
3 to the Commission back in 2008, when you look at the
4 ultimate costs to be paid by customers, have not
5 changed. While some of the construction costs have gone
6 up, we've saved \$1.2 billion in interest costs because
7 we've been able to take advantage of lower interest
8 rates. We believe we'll receive an additional \$1
9 billion dollars in production tax credits because there
10 are fewer new nuclear plants being built in the United
11 States, and we'll qualify for more incentives available
12 from the federal government. When you roll that
13 together with the cost adjustments we presented to you
14 today, the cost is the same as it was in 2008 for
15 customers over the life of the project. There's been no
16 change.

17 So to say we are overbudget, I don't accept that
18 connotation, because you're only looking at one aspect
19 of the project, and that's project cost. And,
20 certainly, project costs will ultimately be passed on to
21 consumers, but that's only one part of what customers
22 pay. You have to look at production tax credits,
23 financing costs, operating costs. It's all those
24 factors that impact the customer's bill; it's not just
25 the estimated construction cost.

1 **Q** So let's focus on those estimated construction costs,
2 because that's why we're here. Page 37 and following of
3 your testimony identifies those risks that you put
4 before this Commission, risks that have turned out
5 adversely and to which you attribute the substantial
6 portion of the increased costs to complete the project;
7 is that right?

8 **A** Yes, I identify a number of risks in my testimony.

9 **Q** These are the risks that did not pan out as you hoped
10 and expected they would when you talked about them as
11 efficiencies that would limit the costs of completing
12 the project in the initial Application, correct?

13 **A** I don't recall that we used the word "efficiencies." We
14 certainly were open and honest about the modular
15 construction efforts and how we thought that would help
16 us build the project the way it was presented.

17 **Q** Okay. Page 37, enumerating these by topic, "modular
18 production," that was one of the expected construction
19 efficiencies that you initially projected.

20 **A** It is one of the risks we identified.

21 **Q** Well, it's a risk you identified, but you identified it
22 initially as a positive that was going to save money on
23 construction of the units, correct?

24 **A** That was our initial expectation, associated with the
25 risk that goes with that.

1 Q And that expectation has not been borne out, has it?

2 A In some cases, it has not. Module production goes
3 through a number of phases. It starts with the
4 submodule fabrication, a lot of which is coming from
5 Lake Charles, Louisiana. That was a subcontractor on
6 the job that was hired by Shaw and, ultimately, CB&I.
7 The challenge has been in producing those submodules in
8 a way that met the design applications. Many cases,
9 some of the designs changed, as they were building the
10 modules- the submodules, because of constructibility
11 concerns. They needed to make sure they were in
12 compliance with all the quality-control assurances that
13 we needed for a nuclear project.

14 What I can tell you is, once those parts and pieces
15 had been delivered on site and we put together the
16 complete module, which was then placed into the reactor
17 vessel or elsewhere on site, we've had a pretty good
18 track record of putting those pieces together once they
19 arrive on site. The challenge has been in the initial
20 fabrication of those submodules, before they are sent to
21 the site for assembly.

22 Q I look forward to talking to your witness, Mr. Byrne,
23 about those efficiencies or lack thereof, at the plant
24 and at those subcontractors, but suffice it to say, the
25 assumption that you made at the time of the initial

1 Application is that the modular approach to construction
2 would provide cost savings in the construction of these
3 new AP1000 design units, correct?

4 A I don't think you can put forth the assumption without
5 the underlying risk we identified with that assumption.
6 I think you have to take it as a whole.

7 Q All right. Page 38, the second risk you identify as
8 having disclosed to the Commission when they approved
9 this Application was "construction efficiencies,"
10 correct?

11 A That's correct.

12 Q Again, citing advanced modular construction and
13 standardized design as being the source of expected
14 construction efficiencies, correct?

15 A That's what we laid out as the plan, along with the risk
16 that was associated with it.

17 Q Third, you identified "rework" as a risk- correct?

18 A That's correct.

19 Q - but note that since AP1000 units have not yet been
20 built, problems may arise during construction requiring
21 rework, correct?

22 A That's what we identified in our filing, that's correct.

23 Q And "scope changes," again, page 38, that there can be
24 changes in design, changes in regulatory requirements,
25 midstream during construction, correct?

1 A We discussed that with the Commission at the initial
2 filing, that these plants to be built at the
3 Jenkinsville site, as well as the ones built at Vogtle
4 by Georgia Power, are the only ones being built in the
5 United States. However, there are four AP1000s under
6 construction in China that started several years before
7 our project started, and we expected and have received
8 some design changes from that process. Mr. Byrne can
9 address that in more detail. But we've tried to
10 incorporate design changes that were considered
11 necessary, that refined the original design, into our
12 process. Of course, it takes time and effort to do
13 that, and that has contributed to some of the delays we
14 have encountered. Mr. Byrne can go into more detail,
15 but there could be constructibility issues by the
16 fabricator as they take the design drawings and try to
17 actually produce the work that's in the design drawings,
18 and they have to go back to the designers to try to work
19 through those issues.

20 Q Those Chinese AP1000s, are they up and running now?

21 A The Sanmen- first unit at Sammen is physically
22 complete. Mr. Byrne can give you more details. If you
23 were to look at a picture of the plant, you would think
24 it complete. It's beginning to go through some of the
25 testing processes that would need to be completed before

1 they load fuel. I believe the latest estimate is they
2 would look to be operational in 2016.

3 Q All right. Short answer is, none of those AP1000s are
4 on-line yet, producing electricity, are they, in China?

5 A At this point, no.

6 Q I'm sorry. You were garbled on that answer.

7 A No.

8 Q Of course, as I think we established in an earlier
9 proceeding, Chinese Communists run the regulatory system
10 in China, don't they?

11 A That's not the way we refer to the process. They do
12 have an oversight process in China. They have an
13 oversight group that looks at the work that's done by
14 the utilities that are building those projects. I
15 wouldn't offer it's equivalent to the South Carolina
16 Public Service Commission or the Nuclear Regulatory
17 Commission, but they do have oversight of those
18 projects. Westinghouse has been on site as the designer
19 of that facility, to make sure it's built to the same
20 standards that we would expect. C&I, or Shaw, the
21 initial contractor, has been involved in the
22 construction of the units to make sure they're
23 constructed in accordance with the design efforts that
24 are also being followed here in the United States.

25 Q Well, to be clear, the Nuclear Regulatory Commission is

1 not licensing the Chinese AP1000s, are they?

2 A We have never represented that the NRC was overseeing
3 the construction of the plants in China.

4 Q And do you know whether or not they've imposed, in the
5 Chinese reactors, standards that are equivalent to the
6 quality-assurance standards required of our Nuclear
7 Regulatory Commission?

8 A I'll let you ask Mr. Byrne that. He's involved in the
9 detailed design and construction more so than I am.
10 He'll be happy to address that question.

11 Q I'll do that, but as you sit here today, do you know
12 whether or not the Chinese designs meet the stringent
13 quality-assurance standards imposed by the US NRC on
14 domestic US reactors?

15 A I believe I said earlier they're not under the
16 jurisdiction of the Nuclear Regulatory Commission. The
17 exact design, I would let Mr. Byrne address that
18 question.

19 Q And on page 39, lastly, of the risks that you say this
20 Commission forced you to take, you identify "design
21 finalization" as a risk that you assumed would work out
22 to your advantage, and has imposed additional cost,
23 correct?

24 A I don't agree with your assessment that the Commission
25 forced us to take these risks. We presented this

1 project as a whole, for the good of South Carolina, to
2 make sure we could provide clean, base-load energy for
3 60 years. We believed then that was the best option,
4 and we believe that today. We were not forced by the
5 Commission to do this. They agreed with our assessment.
6 We spent probably almost two weeks in here. You were
7 involved with that proceeding. We heard a lot of
8 testimony; there were probably thousands of pages of
9 testimony filed. We heard from a lot of witnesses. And
10 at the end of the day, an agreement was reached that
11 that was the best alternative for the State of South
12 Carolina because of the benefits associated with nuclear
13 power. We were not forced to do that.

14 On a project of this size, you know, design
15 finalization is rarely completed when a project starts.
16 We built our Cope generating facility, our coal-fired
17 plant, back in 1996. The design was not completed when
18 that plant started construction. It's typically
19 completed along the way and finishes in time to make
20 sure the components are available and the design is
21 available to finish the project. So there's design that
22 takes place throughout the process.

23 We never represented to the Commission that the
24 design was completed. We offered that this was a new
25 design; a conceptual design had been done. The design

1 had been certified by the Nuclear Regulatory Commission.
2 There were several dockets that were heard before the
3 Nuclear Regulatory Commission to certify that design.
4 And there were a number of dockets - if I recall, it was
5 probably 18 or 19. I think the design certification was
6 probably docket 19, if I remember my numbers correctly.
7 But there was a lot of work on the initial design, but
8 the detailed design of the individual components had to
9 be done as the project was under construction.

10 Certainly, a large percentage of that is done now.
11 There remains a percentage that will still need to be
12 completed as we move forward. I'll ask you to get Mr.
13 Byrne to give some more detail on that, but we have
14 never represented that the design was completed from the
15 day we started the project. That's not customarily the
16 way large projects of any kind are done, whether it's a
17 large power plant or a large project for any other type
18 facility.

19 Q Well, you did represent to the Commission that under the
20 now current, existing regulatory process, the NRC uses a
21 combined operating license. You don't go through a
22 construction permit and then an operating license; they
23 have one proceeding, and that's the COL, or combined
24 operating license. And that was an efficiency you
25 expected, correct?

1 A That was a new process that was offered by the
2 Commission for building new nuclear facilities. It was
3 the first time it had been offered. We expected there
4 would be challenges to work through that. We've
5 encountered some challenges and we've been working
6 through that with the NRC. And it's working as
7 designed.

8 Q So when you came to this Commission, you told them you
9 had a streamlined or a new one-step NRC licensing
10 process, but you also told them that you didn't have a
11 complete design yet for the reactor, and you were going
12 to have to complete that design while construction was
13 underway. You told the Commission that, you're saying?

14 A We had the design that was certified by the Nuclear
15 Regulatory Commission. The plants could not move
16 forward with nuclear construction until that design was
17 completed and the company issued an operating license.
18 At the time we came to the Commission in 2008, we did
19 not have that license in hand. We were in the process
20 of making application to the NRC to obtain that license.
21 We obtained that license in, I believe it was, March of
22 2012, which meant, from an NRC perspective, the design
23 was certified for the plant as meeting its regulatory
24 safety requirements.

25 Q Page 39 of your testimony, "In light of these risks,

1 SCE&G...acknowledged in 2008 that cost and schedule
2 updates might be required." Quote, "The Commission
3 agreed that under the BLRA these updates would be
4 allowed so long as they were not due to the imprudence
5 of the utility." That's what your testimony is, right?

6 A I believe that comes from the Base Load Review Act
7 itself. As we told the Commission, I told the
8 Commission myself, we are presenting the schedules as
9 our best estimate of our informed judgment of what these
10 plants will cost. We talked about the fixed costs, we
11 talked about the firm with fixed escalation, and we
12 talked about the targeted categories. At that time,
13 about 50 percent was fixed; that's now moved to 66-2/3.

14 I committed to the Commission that, as information
15 changed or the cost information needed to be revised,
16 that we would be back before the Commission to explain
17 the reasons behind it and give them a chance to ask us
18 questions. ORS is on site on a daily basis. They
19 review this information; they sit in our meetings; they
20 have access to all the documents. Our commitment was we
21 would inform the Commission, as the Base Load Review Act
22 requires us to, from a full transparency perspective,
23 and make them aware of the changes. We've been back
24 several times to do that and presented that information
25 with the Commission, under the Act, and to this point

1 they have found nothing that's been done that was
2 imprudent by the company.

3 We believe the information we provided in this case
4 supports the evidence that these costs are justified to
5 be added to the estimate of construction and the change
6 in the schedule, and the company has acted prudently in
7 bringing that information and managing the project.

8 Q All right.

9 CHAIRMAN HALL: Mr. Guild, we're going to
10 break for lunch now. We will come back at 1:15 -
11 1:45.

12 [WHEREUPON, the witness stood aside.]

13 [WHEREUPON, a recess was taken from 12:35
14 to 2:10 p.m.]

A F T E R N O O N S E S S I O N

CHAIRMAN HALL: Thank you. Be seated.

[Witness recalled]

THEREUPON came,

K E V I N B . M A R S H ,

recalled as a witness on behalf of the Petitioner, South Carolina Electric & Gas Company, who, having been previously affirmed, was examined and testified further as follows:

CHAIRMAN HALL: All right. Before we resume Mr. Guild's questioning of Mr. Marsh, I think there was something we need to take up? Mr. Burgess?

MR. BURGESS: Thank you, Madam Chairman. One preliminary matter before we begin. Before we took a break, there was an objection lodged by SCE&G as to the relevance of the document that Mr. Guild was cross-examining Mr. Marsh on. So, we hereby withdraw that objection. So if Mr. Guild wishes to cross-examine Mr. Marsh on what I believe to be Exhibit G, the red-line version, which is from the revised rates docket, we have no objection to that line of questioning.

CHAIRMAN HALL: Okay. The document is Exhibit G to what docket?

MR. GUILD: Madam Chair, it's 2015-160-E.

CHAIRMAN HALL: -160-E.

1 MR. GUILD: The revised rates docket.

2 CHAIRMAN HALL: Okay. All right, thank you.
3 All right. And Mr. Guild, the objection has been
4 withdrawn, and we've now identified the document.
5 So, before, I ruled that the clean copy would come
6 into evidence, but for what purpose do you want it
7 entered at this time?

8 MR. GUILD: So, Madam Chair, I would move that
9 a clean copy of that document, Amended Exhibit G
10 from the docket we just referred to, be marked for
11 identification and received in evidence. I've got
12 just a question or two about it. But I would like
13 it, now, received as an exhibit.

14 CHAIRMAN HALL: Okay, the clean copy.

15 MR. GUILD: Yes, ma'am.

16 CHAIRMAN HALL: Because we were-- the dispute
17 was about the handwritten copy.

18 MR. GUILD: The clean copy in as an exhibit,
19 please.

20 CHAIRMAN HALL: Okay, so the clean copy--

21 MR. BURGESS: Madam Chairman, just so as not
22 to confuse, there is a red-line version of that
23 document --

24 CHAIRMAN HALL: Okay.

25 MR. BURGESS: -- and there's a clean version of

1 that document. I believe the document Mr. Guild
2 had was the red-line version that had his
3 handwritten notes on it. So we certainly have no
4 objection to the red-line version coming in, absent
5 any handwritten notes, or, if you would prefer to
6 put the clean version in, absent any handwritten
7 notes- I know it's a little confusing.

8 CHAIRMAN HALL: Okay.

9 MR. BURGESS: - I think that would be
10 sufficient for us.

11 CHAIRMAN HALL: All right. So right now,
12 we've made Hearing Exhibit 3 the clean red-line
13 copy? Is that correct, Mr. Butler?

14 MR. BUTLER: I think that was correct.

15 CHAIRMAN HALL: Okay.

16 MR. BUTLER: Mr. Guild was just getting ready
17 to, I think, identify-

18 CHAIRMAN HALL: Okay, go ahead, Mr. Guild.
19 I'm sorry.

20 MR. GUILD: It's immaterial. Either one- the
21 contents are the same with the exception of the
22 corrections. But if it's the company's preference,
23 we'll have the clean copy of the final non-red-line
24 version of that Exhibit G. I'd ask that be
25 received in evidence, please.

1 CHAIRMAN HALL: All right.

2 MR. BURGESS: That's perfectly acceptable with
3 us.

4 CHAIRMAN HALL: All right. Well, it's already
5 in as evidence. Hearing Exhibit No. 3.

6 [See Vol. 3, Pg 398]

7 FURTHER CROSS EXAMINATION

8 BY MR. GUILD:

9 Q Good afternoon, Mr. Marsh. Thank you for your patience.

10 A Good afternoon. Is the microphone working better?

11 MR. BUTLER: Much. Much better.

12 CHAIRMAN HALL: Okay, yeah, and I do apologize
13 for that. Apparently, an amplifier wasn't on. And
14 so, we do apologize. And, yes, now all the
15 Commissioners can hear.

16 MR. GUILD: Everybody sounds like themselves,
17 Madam Chair, and also Mr. Marsh I hear loud and
18 clear.

19 BY MR. GUILD:

20 Q Would you just accept, subject to check, Mr. Marsh,
21 again from that document- the company's Amended Exhibit
22 G- that if you total the entries for "Incremental
23 Revenue Requirement-BLRA" from years 2015 through 2020,
24 recognizing that those latter years are estimates, as
25 you said, that the total of those values would be \$677

1 million, subject to check?

2 A Subject to check, yes.

3 Q Now, Mr. Marsh, as you relayed in your testimony, the
4 company is currently in a dispute with the consortium--
5 the Westinghouse Consortium-- with regard to who bears
6 the costs for a number of elements in the capital costs
7 of the proposed Unit 2 and Unit 3 reactors, correct?

8 A That's right. The numbers that we presented in the
9 filing before the Commission today represent the best
10 estimate of the costs to complete the plants at this
11 time, but do reflect-- we have noted in my testimony,
12 and others' --that there are disputes related to certain
13 costs included in those amounts.

14 Q And what's the form, currently, of those disputes, Mr.
15 Marsh?

16 A We have been in discussions with the consortium on
17 numerous occasions since we got the revised integrated
18 schedule. I believe it was in August of last year, and
19 the cost data that went with that schedule followed
20 shortly thereafter. Once we got the cost information,
21 we put a team together on the site, at the project, to
22 review the schedule, to understand the assumptions
23 they'd made, and to challenge the costs and the data
24 that was in that schedule to determine, one, if we
25 thought it was a reasonable estimate to reflect what it